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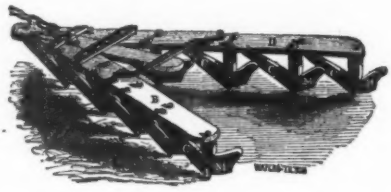
Hints on Grape Culture.—XV.

OUR last article was devoted mainly to the cultivation of crops between the rows of vines. The present will treat chiefly of training. It fortunately happens that the training of the vine during the first year is a matter of much simplicity, free from difficult mechanical manipulations, making no extraordinary demands upon our knowledge of vegetable physiology, and requiring only a little attention, and the exercise of ordinary intelligence. Some knowledge of vegetable laws would render the operations less tedious and infinitely more interesting; but we shall describe the mechanical operations so plainly that "none need go astray."

We will suppose the vines to have been pruned down to two or three buds, as already directed. If a trellis has not been put up, a stake four or five feet long must be placed by each vine; for the vines must under no circumstances be allowed to grow on the ground. It is a very common practice to allow them to do so; but the practice is so wholly bad, that we trust it will find no followers among those who read these articles. Place a stake, then, about two inches from each vine, and on the north side of it, and not on the south, as we have sometimes seen. The pruning and staking having been done, the next operation will be the plowing. This will be performed differently by different individuals, according as they have a system of their own, and are "set in their ways." A good plan is to set the plow from twelve to fifteen inches from the vines, and turn the furrow *from*

them. In turning this furrow, the plow must be run sufficiently shallow to avoid injuring the roots; for no matter what may be conceded to "root pruning" when the vines have acquired age, we insist that now at least they shall not be disturbed. But to proceed. In making the return furrow, lay it against the first, so as to form a ridge. This return furrow may be made deeper than the first: the depth of the furrows should be increased with the distance from the vines. Turn a furrow from the next row of vines in the manner first described, and lay the return furrow against it. If we have been understood, the space between two rows of vines will be laid up in ridges; these ridges are now to be broken down by running the plow through the middle of each, which will make the ground level again, as it should be.

The next operation will be harrowing. The common form of harrow we do not esteem best adapted to the purpose, the objection being to the form of the teeth. These should be somewhat in the form of cultivator teeth. The best implement that we have seen is Share's coulter harrow, of which we give an engraving; it



pulverizes the soil without compacting it to the degree that the common harrow does. We have several times represented to the proprietors of this harrow, (Messrs. Haines & Pell,) the necessity for making one of a smaller size, to be worked by one horse, and we understand that they have concluded to do so. It would in that form be still better adapted to the vineyard. When the soil is harrowed, the crop to be grown between the rows may be put in, under the conditions mentioned in our last.

Let us now turn to the vines. As soon as the new shoots have grown about four inches, select the strongest, and break the others off. If each grows equally strong, which is not often the case, select the lowest, as it is desirable to have the new shoot as low down as possible. In June the remains of the old wood should be pruned off close to the new wood; it should be cut at an angle of about 45°. In this way the new wood will grow over and cover the wound, and the trunk of the vine will grow straight. The new shoot must be tied up from the beginning, and the tieing repeated at intervals during the season. After having made a growth of four or five feet, the young shoot may, indeed, be left to grow free, but if the stake be sufficiently high, it is better to keep the growing shoot tied up.

The object of the first year's training is to obtain a single cane of stout, well-

ripened wood. To secure this, we should aim, as far as possible, to prevent the vine from wasting its energies in the formation of superfluous parts. One very important means to this end is the suppression of the lateral shoots, and thus directing the flow of the sap mainly in one channel. To suppress these laterals entirely, however, would result in disaster, by causing the buds to break; this, in the case of bearing wood, as will hereafter appear, would result in the loss of the crop the following year. The laterals perform an important part in the economy of the vine; we have simply to guide and control their action so as to secure more fully and certainly the object in view. The physiology of the subject will be treated of hereafter; at present we shall only describe the mechanical operations to be observed. As soon as two leaves have been formed, the lateral must be pinched in to one leaf, leaving above this leaf about an inch of the green wood. This should be done before the second leaf has attained any considerable size; for example, when about the size of a twenty-five cent piece. The leaf left on the lateral will increase in size pretty fast, and the bud at its axil will rapidly develop, and finally break or grow. On old vines, this bud often produces fruit, but it never ripens in the open air. When this bud has made two leaves, the lateral must be again pinched in, so as to leave one leaf on the shoot made from the bud just described. There will now be two leaves on the lateral; one below the first pinching, and the other below the second. The second leaf will increase in size faster than the first did, and will grow larger; both leaves, indeed, will be larger than they would have been if the lateral had not been pinched in, and we may add, that in all such cases the leaf function is consequently performed more perfectly. The bud at the axil of the second leaf will be developed, and put forth a new shoot in the manner already described. If the vine has been growing vigorously, this second bud will break before the season has become far advanced, and the lateral must then be pinched in again precisely as above described; otherwise it may be left to grow as it will. We have used the word lateral in the singular number, but it will be understood that the laterals are to be all treated alike. If, through negligence, the laterals should not have been pinched in as described, they will have got to be of some size by mid season; and in this case two or three leaves should be left on, for with the size of the lateral increases the danger of bursting the bud at its base.

If, from late planting, shortness of season, or any similar cause, it is apprehended that the wood will not mature, the process of ripening may be hastened by pinching in the end of the vine, or by simply breaking down (not *off*) a foot or more of the end, leaving the part broken hanging to the vine. After the middle of September the vine will need no other care in regard to training. All through the season, special care must be taken that the leaves receive no injury by handling or otherwise. The ground must be stirred from time to time, and kept free from weeds. One of the best implements for this purpose is the horse-hoe, the weeding immediately around the vines being finished with the hand-hoe.

When the wood is thoroughly ripe, and the leaves have dropped of their own accord, the vines may be pruned. It will be necessary to reduce them again to three eyes, cutting about two inches above the third eye. The vines will now be ready to cover, if this should be deemed necessary; in some localities it has important advantages, and is really less laborious than at first sight would appear. Nothing more is necessary than to throw a little light mould around the vines in the form of a hillock. A little cedar or other brush thrown over them will answer the same purpose, but care must be taken not to form a harbor for mice. If the vineyard has been made in a clay soil, it will be benefited by fall plowing, which must be done as already described, except that the ground should not be harrowed, but left rough. This will complete the care of the vineyard during the first year.

The method of increasing the size of the cane, forming fruit wood during the first season, and matters of a similar nature, are reserved for a future occasion.

LANDSCAPE ADORNMENT.—No. XXIII. ROADS, No. 4.

BY GEO. E. WOODWARD,

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THERE is, perhaps, as much skill to be displayed in the location and construction of an ornamental road as in any other branch of landscape adornment, and there is precisely that knowledge wanted that can define the line where all the essential requirements of a good road can be had without going beyond a fair expense. Among many examples of road-making that can be mentioned, no motive of economy could be urged as a reason for not producing the best results, but simply a total ignorance of all that is necessary in the execution of such works. The requirements of a good road are, a hard, smooth surface, that can not be cut up in any weather, whose drainage is perfect, and which may be kept in high order with the least amount of labor. Such a road, if tastefully aligned and graded, is what one naturally expects to see on entering the inclosure of a place that pretends to any ornamental display.

There are many sections of our country, however, in which it is impossible to procure the needful materials to make such roads, and where one must be content with such road coverings as can be had, or with the natural surface of the earth. Broken stone and gravel are not within the reach of all. But whether a road be designed for a covering or not, the same principles of construction should be observed; the same preparation of the earth road is necessary, whether the travelling be done on the earth surface, on the broken stone covering, or on a covering of any other materials.

Perhaps the most important thing to be observed in road building is thorough under and side drainage; and the location should be made with this in view, and

so as to avoid as far as possible the drainage from adjoining lands. Agricultural drainage has established the fact, that lands hitherto impassable for teams have been made firm and accessible, and those lands usually soft in the spring are in settled condition much earlier in the season. As the obejct of every road-maker should be to get a hard, firm, and durable road bed, thorough drainage should become with him an important study, as by this means he can preserve to a very great extent the permanence of the road. So necessary is this, that no one can hope to make good roads over wet grounds, unless embanked so high as to be above the influence of the water. No amount of metaling will compensate for the lack of drainage, as, sooner or later, it will mix with the soil and become comparatively worthless. Drainage is one of the essential parts of road construction, and no money or labor is so well expended as that which will effect this object. It is the most economical disposition of one's means that could be suggested. Wherever the ground is firm and dry, or naturally drained, this precaution is unnecessary. The object should be to obtain a free outlet for all the water that falls, or runs on to the road bed, or that which would be retained by the earth. Sandy or gravelly soils rarely need artificial drainage.

We prefer, in laying out an ornamental road, to keep the grade line as near the original surface of the ground as possible, and not make use of embankments or deep excavations, if they can be avoided; and in any case where compelled to do so, they should be carefully blended into the lines of the natural surfaces. The natural windings of a road seeking a uniform grade over irregular ground are very apt to be more beautiful than if a location is forced by heavy work. Independent of the economy of avoiding earth work, there are also other considerations of value, among which would be less liability to wash and less labor in repair, a straight road on a steep grade being among the most difficult of all to keep in good condition. To preserve a handsome grade with the least amount of earth work is one of the best of reasons for adopting a gracefully flowing line.

In most cases it would be preferable to remove one foot of the top soil from the road, as that is more likely to retain water than the subsoil; yet there are examples in which the top soil would be best. Whatever is removed to this depth can be advantageously used in filling up irregularities or depressions about the grounds.

The whole secret in making a road not designed to have a covering, but to be used as an earth road, lies in a skillful and judicious location, moderate grades, thorough drainage, (which include also an inclination from the centre to the sides,) and the use of the firmest and least absorbent earth obtainable. More evils can be avoided by a proper location than could be remedied by all the ingenious devices yet brought to notice. All matters of construction are but secondary to location; one is but a simple mechanical process, the other involves judgment and skill; the one an exhibition of labor, and its attendant bustle and noise, the other apparently a summer day's recreation, the result, however, of years of

study and hard work, the invisible power that decides between a judicious economy and a wasteful extravagance, that solves that difficult problem wherein is attained the best results at the minimum of expense.

Whatever class of covering may be adopted for the purpose of improving the surface of a road, will not alter in any respect the preparation of the earth road; the covering, whether it be gravel, stone, or other material, must have the same foundation made for its reception as has been described for use without covering. We are particularly desirous of calling attention to the expensive blunders usually committed by those who pretend to lay out and construct ornamental roads having a stone covering, and to direct attention to those intelligent and well-known systems which not only present the most good qualities, but do so with the most economy of means. There is no impression so absurd as that which supposes a truly scientific course of road-building to be the most expensive; on the contrary, it is the true principle of economy, although on private estates there are strong prejudices to overcome among those who copy the usual poor plan in which the mass of materials is supposed to make up the deficiency in quality and combination. He who uses eighteen inches to three feet of broken stone, of all sizes, in making a stone road, ought to be able to give good and sufficient reasons for his acts. It must, however, be plain enough to any one who investigates thoroughly this subject, that such would be a foolish and extravagant waste of materials and labor, and that no example of such construction can be found among the really fine specimens of road-building in this country. We shall in our next article on this subject illustrate the best mode of constructing broken stone roads, showing wherein a properly prepared stone covering of from six to ten inches in thickness is every way better than the common practice of building such roads in country estates, as has been thoroughly demonstrated for years by the matchless broken stone roads of Telford, McAdam, and Bayldon, the best examples of which we have in the magnificent drives of the Central Park.

PRESERVING THE PEACH.

BY J. C. THOMPSON, TOMPKINSVILLE, STATEN ISLAND, N. Y.

After several years' trial, I am confident that the application of fine brimstone (flour of sulphur) to the base of the tree will preserve it, first moving away the earth about three inches deep, and destroying the worms, if there be any, applying a small or large handful, according to the size of the tree, and replacing the earth.

This may be done every year, for a certainty, or once in two years. This I accidentally discovered, moving the earth from a peach tree 6 or 8 inches in diameter, much injured by the worms, the bark all off, and the wood badly eaten away. Having a jar of flour of sulphur by me, I emptied the contents, from half

a pound to a pound, in the opening made around the tree, to clean out the worms. The earth was replaced, with slim hopes of the tree recovering; but during the summer the foliage assumed a deep rich green, and the tree grew finely.

On removing the earth in the following spring, no trace of the wound was visible. Since then, the use of sulphur has kept my trees free from borers, and I have no doubt but a mixture of sulphur and soft soap applied to the base of *apple trees* with a brush, would prevent the depredations of the apple tree borer.

Renewing Peach Trees.—Peaches are never borne twice on the same wood, but always on the new wood of the previous summer's growth; hence peach trees soon get beyond our reach, if not cut back, or "summer pruned." The bearing wood each year gets farther from the ground, until we only find a little fruit on the extreme ends of the branches. Mine were in that condition in the spring of 1861, when, as the very sudden cold snap of November, 1860, destroyed all the fruit buds, so there would be no fruit for the trees to nourish in the summer of 1861, the growth of wood would be very great, and the trees still further beyond control. To subdue them, I sawed them off about two feet from the ground, in April, and covered the wounds with gum shellac, (not a good article;) a mixture of one-third each of beeswax, rosin, and tallow is a much better covering. They all pushed out numerous shoots, which grew from 5 to 8 feet in length, and every twig is full of fruit-buds, so that I have a good prospect of a crop the coming season, unless the mercury falls to 8 or 10 below zero, a degree of cold the peach blossom bud can not stand in this section.

The conclusion arrived at is this: with the treatment named, (barring the excessive cold,) a crop of peaches can be obtained every year, by sawing down every other tree in the row, or alternate rows, every year. Let half the trees be producing wood and the other half fruit, and the following spring saw down those that had fruited.

Should the frost kill the fruit-buds, then saw all back to the stump again.

The method of cultivating low gives us control of the trees, to thin out fruit, cut back, or summer prune.

[We can see no reason why sulphur, as applied by Mr. Thompson, should not be a good preventive of the depredations of the borer. Soft soap applied to the base of the tree is a good preventive of itself; so, also, is the refuse grease of the kitchen. Sulphur would probably add to the value of either. We are enabled to confirm what Mr. Thompson says in regard to the results of cutting down the peach. During the same cold season, a number of trees were cut down at our suggestion, the trees being some seven years old, and the fruit-buds dead. All except one made good wood. It was considered an extreme remedy for an extreme case: we should much prefer systematic spring and summer pruning to a general resort to it. The suggestion will have its value, however, to many of our readers not familiar with it.—Ed.]

WHERE ARE THE QUINCES?

BY EL MEDICO.

I HAVE the back volumes of the HORTICULTURIST, at least several of them, bound; and I have a little boy by the name of Frank, just three years old to-day. I love to show Frank the plates of fruits, etc., in the HORTICULTURIST, and Frank loves right well to see them; in truth, it gives him unbounded delight to see them, and he never tires of seeing the pictures again and again. Frank has a decided taste for fruit; and I think he will be a horticulturist. He shall have his garden this year, 4 feet by 4, within my garden, as his little sister (some older) has had for two years past.

But to my subject: After finishing the exhibition of a volume of the HORTICULTURIST to Frank a few minutes ago, he asked me: "Now, Papa, where the Quinsins?" "My son, I will have to ask Mr. Mead." And now, Friend Mead, I will ask you, why have you slighted the quinces so much? The name of this very useful and very beautiful fruit is not so much as mentioned in your last three volumes. There must be something very attractive about it, for I have always observed that the ladies are anxious to get it, in its season, for preserving, and I have never known them to get it, except at a very high price. Although I have never known the price to be less than twice that of the Peach, I have never seen the demand fully met. For there is, perhaps, no fruit which ladies would rather make use of for preserves and jelly, not only on account of the *quality* of what they produce by their skill, but of its unsurpassed *beauty*. And on the score of healthfulness, I have never heard man, or woman, or child, so much as breathe a charge against the Quince.

For aught I know to the contrary, Quinces may be as numerous in variety as the Apple or Pear, and as variable in quality. I have often seen the kinds known as the Apple and Pear Quince; and I once, at a country fair in this State, saw Quinces on exhibition, of a kind known by the name of the producer, which were infinitely superior to the former kinds. I doubt if I exaggerate any, when I say they were 15 inches in circumference, and in appearance attractive beyond any thing of the kind I had ever seen. I have a tree of the Chinese Quince, now three or four years old, and apparently perfectly hardy. I obtained it on the recommendation of a friend who had fruited it on the eastern shore of Maryland. He represented the fruit as being large, very long, (like a cucumber,) of a beautiful yellow color, and delicious flavor. His wife had made from it a jelly, pronounced by good judges superior to that from the common Quince.

As an ornamental tree, the Quince, when properly pruned, is, to my eye, very beautiful. I think it has the rare advantage, like the dogwood, and a few others, of growing without detriment, within the shade of other trees. At all events, I once had the pleasure of seeing one remarkable for its beauty in such a situation, in the

front yard of a distinguished amateur horticulturist near Cincinnati. The tree was faultless in shape, an almost perfect globe rising from a large straight stalk, some three feet high, and when I saw it, laden with many hundred golden colored fruit, large and perfect. The sight was exceedingly attractive, and brought to my recollection the occasion when, for the first time in my life, I saw at the Mission of San Gabriel, near Los Angeles, in California, full-grown orange trees laden with ripe fruit interspersed among its deep rich green foliage.

Why is it, that a tree of such rare beauty as an ornament to a lawn, a fruit so pleasant to the eye and the palate, so much sought after, and so seldom to be found in abundance, is neglected as it is, throughout our country?

Frank thinks any variety of Quince would look well in the HORTICULTURIST, and his papa thinks a painting, with a description of the Chinese variety, of which he has sought information in vain, would afford pleasure as well as valuable knowledge to many, if not all of its readers.

P. S.—The Concord Grape has been fruited with us, during last season; and its size and quality seem so much enhanced in our more southern latitude, that I can not refrain from predicting for it a reputation beyond that of any other native grape heretofore disseminated. Yet, for wine, it is doubtless inferior to the Catawba; and for the table, inferior in quality to the Delaware. For the million, however, it has attractions which will give it greater favor and reputation than any other kind.

It is high time the public had some enlightenment as to the Hybrids. Doubtless many persons fruited them the last season. Will they not speak out, and freely condemn or praise, as each may require?

P. S.—Since writing the above, and when spending a leisure hour in my garden, instructing an esteemed neighbor—lately "awakened" in the art of grape-grafting—I was interrupted by the post-boy handing me the last HORTICULTURIST, which contains an admirable article from *Horticola*. The knowledge it imparts concerning the delicate and uncertain manipulations of grape-grafting, is both of interest and value. The theory he presents of his own failure, is doubtless true. In early Spring, without sufficient protection by a cover of earth, frost will destroy the graft; and, later in the year, the drought and heat of summer will prove equally destructive. Last spring, hoping for a continuance of the blessing of peace—but hoping against hope, as the event has proved—I entertained the idea of beginning to set out a vineyard; and so, had several thousand cuttings of the Catawba—the Monarch, "by divine right," of American grapes—set out in a rather sandy soil. An English gardener did the "job" for me—and I am sorry to say for the cuttings too. My direction to plant at an angle of 45° to the horizon, was so far disregarded, that the inserted points of most of the cuttings were not covered with more than two or three inches of soil. All such were dried up by the heat of summer; and not

more, perhaps, than a tenth part are now living, being those whose points by some chance were inserted deeper.

To obviate the effects of frost, I have this spring used grafts from 6 to 12 inches long; and, when the war shall have ended, I will know how to "head" the drought of summer: with what success, in both cases, Providence permitting, you shall know. And I trust, that with the assistance of *Horticola*, I shall be enabled, "*poco á poco*," to master completely the hitherto discouragingly uncertain art of grape grafting.

Before closing, allow me to return my thanks to *Horticola* for the refined and classic greeting he gives me in his last article. His polished pen and instructed mind have afforded me much pleasure; and I take him to be a man after my own heart—"*hominem ad unguem.*" Would that he could come and be my neighbor here—"away out west." If that could be so; and if, again, my frequent visits should beget the belief, in the neighborhood, that he had lost his health forever, and had become my perpetual patient, I promise hereby never to present a bill of any kind to him, save it be a bill of fare in fruit season. I would make the pleasant effort to gratify his eye and palate with the best kinds of every fruit our climate will produce: and if my suspicion be true, that grapes are his *foible*, or rather his *forte*, I would exhibit to his gratified view many a trellis,

> "O'er which the mantling vine
> Lays forth her purple grape, and gently creeps
> Luxuriant."

[We must plead guilty to this seeming neglect of the Quince, really one of our most valuable fruits. Embrace Frank for us, and tell him he shall have the "Quinsins." You estimate *Horticola* none too highly. Learned and polished, he is yet a practiced amateur, such as we seldom meet with. It is a rare privilege to enjoy the society of such a man. We wish you were nearer together, that you might see each other often. He will appreciate your beautiful recognition of his greeting. We have ventured to give him your address.—Ed.]

AMERICAN EVERGREEN TREES.—No. 2.

BY C. N. BEMENT.

The Hemlock.—We are pleased to notice the Hemlock is attracting more attention. We consider it, beyond all question, the most graceful, the most beautiful tree of the evergreen family indigenous to North America for ornamental purposes. It is a native of our northern hills, and too common to be generally appreciated; it is, notwithstanding, the most beautiful of evergreens. It is distinguished from all other Pines, by the softness and delicacy of its tufted foliage; from Spruces

by its slender, tapering branchlets, and the smoothness of its limbs; and from the Balsam Fir, by its small terminal cones, by the irregularity of its branches, and of the gracefulness of its whole appearance. It is as handsome as the Deodar, and is very much like it. The latter droops more, and is *silvery* in its foliage, instead of bronzy; but they are much alike otherwise, and are the best possible companions in pleasure grounds. It is of considerable importance, being in its perfection a more beautiful tree than the White Pine, or any other evergreen. It is far less formal in its shape than other trees of the same family. Its branches being slender and flexible, do not project stiffly from the shaft; they bend slightly at the terminations, and are easily moved by the wind; and as they are very numerous, and covered with foliage, we behold in the tree a dense mass of glittering verdure, not to be seen in any other tree in the forest. A great many persons, who only know the Hemlock in the wood, affect a contempt for it as an ornamental tree. They think it "shaggy, ugly, and wild looking." They only show their ignorance. Few have the least idea of its striking beauty when grown singly in a smooth lawn, its branches extending freely on all sides and sweeping the ground, its loose spray and full feathering foliage flaunting freely in the air, and in its full proportions of the finest symmetry and harmony.

Let us see what further can be said of it. Hardy, of fair growth when well established, color vivid green, unchanged by hardest frosts, and the style of branch and leaf superbly graceful. Nothing can exceed the beauty of its growth in early summer. For airy gracefulness, and the absence of that stiffness more or less prevalent in most evergreens, we must be allowed, therefore, to claim the first place for the Hemlock, as a tree for the lawn or park. The Norway Spruce, and several others, have their several excellences, but, all things considered, they must yield the palm to this.

The Hemlock is mostly unknown as a shade tree; it is seldom seen by the roadside, except on the edge of the wood, and not in cultivated grounds. In its native haunts, by the side of some steep mountain, it is most often a grand and picturesque tree. But, unfortunately, it has the reputation of being a difficult tree to transplant; and so it is, if taken from the forest and carelessly handled, though we have seen many of them removed with scarcely the loss of half-a-dozen in the hundred; yet, we are bound to confess, that in the ordinary rude handling it is impatient of removal. They will not bear the exposure to the sun and air, even for a short period, which seems to have little effect upon most deciduous trees. Once their roots fairly dried and shrivelled, they are slow to regain their former vital power, and the plant in consequence dies. If one can not give time and pains to do the work well, let him buy his trees from the nursery, and then they will be sure to live. When taken from the woods, it is best done in winter; or, if the soil is sufficiently tenacious, with a damp ball in spring, as has been done successfully by the writer. The want of success usually attending the transplanting of it from the woods, has prevented the general adoption of it as an ornamental tree. Some no-

ble specimens are occasionally seen in rude situations, where the cultivator has not interrupted their spontaneous growth; and the poet and the naturalist are inspired with a pleasing admiration of their beauty, because they have seen them only where the solitary birds sing their wild notes, and where the heart is unmolested by the crowding tumult of human settlements.

The young Hemlocks, by their numerous irregular branches, clothed with foliage of a delicate green, form a rich mass of verdure; and when, in the beginning of summer, each tiny twig is terminated with a tuft of yellowish green recent leaves, surmounting the darker green of the former year, the effect, as an object of beauty, is equalled by the very few flowering shrubs, and far surpasses that produced by any other tree.

As it bears pruning to almost any degree, without suffering injury, it is well suited for hedges, and screens for the protection of more tender trees and plants, or for concealing disagreeable objects. A hedge of this kind may be made in a few years, to assume the appearance of an impenetrable evergreen wall, really impenetrable to the wind and to domestic animals. It adds also to the landscape in winter, by the green foliage, which is always cheering to the sight at that dreary season.

We must not omit, while speaking of the evergreens, to say a word concerning

The Larch.—The European and American Larches, says Michaux, are more strictly confined than any other resinous trees to the northern zone of the two continents, and they are the first to disappear in approaching a milder sky. The American species is most abundant in the States of Vermont, New Hampshire, and Maine. In New York, it is seen only in the swamp of white cedar, with which it is scantily mingled. In some sections it is called Hacmatac, and Tamerac.

The American Larch has some striking points of form and habit. Like the Southern Cypress, it differs in its deciduous character from other coniferous trees; hence, both are distinguished by the brilliancy of their verdure in the early part of summer, when the other evergreens are particularly sombre; but they are leafless in the winter.

The American and European Larches differ only in the longer flowing foliage, and the larger cones of the latter. Among the winter beauties of both species may be mentioned the bright crimson cones that appear in June, and resemble clusters of fruit. In the vigor of its years it tends to uniformity, and to variety when it is old. Indeed, an aged Larch is often as rugged and fantastic as an old oak.

The American Larch, like its European relative, is a magnificent tree, with a straight, slender trunk, eighty to one hundred feet in height, and two or three feet in diameter. Its numerous branches, except near the summit, are horizontal or declining. The bark is smooth and polished on the trunk and longer limbs, and rugged on the smaller branches. The leaves are flexible, shorter than those of the European species, and collected in bunches; they are shed in the fall, and

renewed in the spring. The cones of the European Larch are twice as large as those of the American species; but the two trees are so analogous, that a seperate description is unnecessary.

The Larch seems to delight in the coldest situations, and, like the Spruce, flourishes best in swamps, but will adapt itself to almost all soils, except sandy. We have removed it successfully from swamps, in the months of May and June, without losing a single tree.

In ornamental planting Larches are very desirable, and no lawn or pleasure ground of any size would be complete without them.

The White Cedars are low evergreen trees, natives of Europe and North America, and remarkable for their spiry form, and closeness of grain, and the durability of their wood. It is always a graceful and beautiful tree. Even when growing in its native swamps, hemmed in on all sides, and struggling for existence, the top, and a branch or two near the top, will be marked by a characteristic elegance of shape which no other tree of the same family possesses. It is entirely free from the stiffness of the Pines, and the spiry top of the Poplar; and to the grace of the Cypress it unites the airy lightness of the Hemlock. Its foliage is evergreen, each leaf consisting of a little branch numerously subdivided; and the flowers, which are scarcely visible, produce very small rough cones, of a greenish tint, which changes toward the fall, when they open to release their fine seeds.

The White Cedar has so many excellent qualities, that in an industrial and manufacturing community it can never cease to be valuable. Fortunately, it is one which can be cultivated with less expense than any other forest tree, and it conflicts with no other.

The White Cedar at the South grows seventy or eighty feet high. When close and compressed, the straight and perpendicular trunks are free from branches to the height of fifty or sixty feet.

It grows generally in swamps or moist grounds, which are only accessible during the dryest periods of summer, and while frozen in winter. The trees stand so thick in these swamps that the light can hardly penetrate the foliage. Extensive swamps of White Cedar are found in Oswego County and in the vicinity of Syracuse. We have noticed them on high rocky grounds east of the city of Hudson. It is said to make a beautiful hedge.

The Juniper.—This family varies much in form, color, and habit; some being compact, upright and pyramidal, others open and spreading; some a dark grass-green, others, again, tinged with blue. It becomes rusty in winter, and is wont to lose its lower branches, and to become shabby on the sides exposed to severe winds. Give it a partially sheltered aspect, set it in a sandy loam, and it will often make a handsome tree.

The Junipers deserve more attention than they have heretofore received. They

ble specimens are occasionally seen in rude situations, where the cultivator has not interrupted their spontaneous growth; and the poet and the naturalist are inspired with a pleasing admiration of their beauty, because they have seen them only where the solitary birds sing their wild notes, and where the heart is unmolested by the crowding tumult of human settlements.

The young Hemlocks, by their numerous irregular branches, clothed with foliage of a delicate green, form a rich mass of verdure; and when, in the beginning of summer, each tiny twig is terminated with a tuft of yellowish green recent leaves, surmounting the darker green of the former year, the effect, as an object of beauty, is equalled by the very few flowering shrubs, and far surpasses that produced by any other tree.

As it bears pruning to almost any degree, without suffering injury, it is well suited for hedges, and screens for the protection of more tender trees and plants, or for concealing disagreeable objects. A hedge of this kind may be made in a few years, to assume the appearance of an impenetrable evergreen wall, really impenetrable to the wind and to domestic animals. It adds also to the landscape in winter, by the green foliage, which is always cheering to the sight at that dreary season.

We must not omit, while speaking of the evergreens, to say a word concerning *The Larch.*—The European and American Larches, says Michaux, are more strictly confined than any other resinous trees to the northern zone of the two continents, and they are the first to disappear in approaching a milder sky. The American species is most abundant in the States of Vermont, New Hampshire, and Maine. In New York, it is seen only in the swamp of white cedar, with which it is scantily mingled. In some sections it is called Hacmatac, and Tamerac.

The American Larch has some striking points of form and habit. Like the Southern Cypress, it differs in its deciduous character from other coniferous trees; hence, both are distinguished by the brilliancy of their verdure in the early part of summer, when the other evergreens are particularly sombre; but they are leafless in the winter.

The American and European Larches differ only in the longer flowing foliage, and the larger cones of the latter. Among the winter beauties of both species may be mentioned the bright crimson cones that appear in June, and resemble clusters of fruit. In the vigor of its years it tends to uniformity, and to variety when it is old. Indeed, an aged Larch is often as rugged and fantastic as an old oak.

The American Larch, like its European relative, is a magnificent tree, with a straight, slender trunk, eighty to one hundred feet in height, and two or three feet in diameter. Its numerous branches, except near the summit, are horizontal or declining. The bark is smooth and polished on the trunk and longer limbs, and rugged on the smaller branches. The leaves are flexible, shorter than those of the European species, and collected in bunches; they are shed in the fall, and

renewed in the spring. The cones of the European Larch are twice as large as those of the American species; but the two trees are so analogous, that a seperate description is unnecessary.

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are quite distinct from all other trees, and being of medium size, are well suited to small grounds, cemeteries, and other such situations.

The species are all aromatic evergreens, with narrow leaves, either spreading and sharp-pointed, or intricated, minute, and obtuse. The fruit is globular or oval, of a bluish cast, or brown with a glaucus efflorescence. The stimulating and diuretic powers of the berries are well known, and are proverbial for the flavor they give to gin.

The common Junipers are hardy as far North as Albany, and are common on Staten Island, Long Island, and on the banks of the Hudson River. Planted in rows near together, they form an excellent protection in exposed situations, and bear transplanting even when well grown.

The Dwarf Juniper is a variety, and, as its name implies, more humble in its growth. Some are low and straggling in their growth, but as a general rule they assume an upright, compact, tapering, conical shape, resembling somewhat a miniature Lombardy Poplar. Standing scattered about in a field, when viewed at a distance they look like sentinels on duty. They can be trained to almost any shape, and be made quite ornamental. An occasional tying in of the branches, and a little clipping of the extremities, improves their appearance. It grows wild in several parts of the State, and travellers on the Hudson River Railroad could not fail to notice this little upright Juniper growing in great perfection on the hill-sides near the Highlands, and also on the banks of the river near Coxsackie and Albany.

The Red Cedar is usually a ragged-looking tree; it is distinguished from the White and the Arbor Vitæ, the only tree which it resembles, by bearing its fruit in the form of a berry, and its leaves exhibiting but slightly a tendency to form themselves in a plane. The trunk is straight, rapidly decreasing, and full of branches. It is often deformed by holes produced by the loss of branches, and by knots left in the attempt to make it a shapely tree by pruning.

Though usually of but little beauty, it may be made a handsome low or middle-sized tree by careful pruning when young. If this is attempted too late, the tree is deformed by numerous knots. When growing in a dry, but rich soil, in sheltered situations, it is sometimes a handsome tree.

The wood is light, close-grained, smooth and compact, and possessed of great durability. The agreeable permanent aromatic odor recommends it for certain uses, as that of making pencils and the bottoms of small boxes and drawers, the aroma making it a safeguard against insects. The berries are bluish, and are employed in medicine as a diuretic, and to give their peculiar flavor to gin.

CULTURE OF THE CAMELLIA JAPONICA.

BY WM. CARMIENCKE.

The vegetable kingdom has presented us with an inexhaustible richness of gratifying and inquiring meditations. Sometimes it is beautiful flowers that attract our attention; at other times, the variegated leaves of the Begonias, Marantas, Dracænas, or Crotons, or the flavor of some fruit. It would be impossible for any contemplative mind to pass by the *Camellia Japonica*, whose flowers by cultivation have attained such great perfection. When we behold their wax-like appearance, clear colors, and differently formed flowers, and dark green, shining foliage, it refreshes our soul. Would it, then, be out of the way if we made use of these long winter evenings to make ourselves familiar with this noble plant?

The Camellia Japonica is so generally known that it will be needless here to describe it. Among the other species of this family, we may here name the C. Bohea, (Thea Bohea,) black tea plant. This plant, which has given to mankind a refreshing beverage, first became known in the city of London, England, in 1660, where a tobacconist sold it as a remedy against different diseases. After this it became a general drink in Europe. The other, C. viridis, (Thea viridis,) the green tea plant, is a native of China, Tonquin, and Japan. In my present communication, it is not my wish to instruct the old veterans of floriculture; all I desire is to give those that wish it some useful hints.

In connection with the culture of the Camellia, it will not be uninteresting to inquire into the different laws of nature which govern vegetation; this will tend to convince us of how important it is, that theoretical and practical knowledge should go hand in hand. The man without theory is blind, and the man without practice is blind. The natural agents which govern vegetation are four in number; these are, Air, Heat, Soil, and Water. Yet to have the proper influence upon vegetation, they must stand in certain proportions to each other; if the plant is deprived of one of those agents, it will be impossible for it to develop itself perfectly; consequently, when we undertake to cultivate plants we must, to secure their perfection, place them in a soil and temperature that harmonize with the one in which they grew in their natural state; the question therefore arises, How are we able to naturalize a plant? The maxim upon which the naturalization of plants is founded is principally, the similarity of temperature in regions. In other words, it is impossible for us to naturalize a plant in a country unless its temperature is equal to the one of which the plant is a native. We know that the temperature of a place depends upon two different circumstances: First, its distance from the equator. Meteorology has taught us, that the nearer a plant is to the equator, so much warmer is it placed, and the plants that grow there need a higher temperature. Secondly, the temperature of a place is different according to its

altitude. When we ascend a range of mountains, like the Himalaya in Asia, or Andes in South America, we perceive that the temperature diminishes, as it does when going from the equator towards either of the poles. After passing through regions of different plants, for instance, Orchids, Palms, Tree-like Ferns, Adromedas, etc., and familiar plants of our northern climate, we find the mountain tops crowned with perpetual snow, which hinders the further progress of vegetation. It will therefore appear evident to us, that we could never arrive in the haven of success, if we should place all the different families of plants in the same temperature; it has therefore been found expedient to erect different glass structures, in which, by means of artificial heat, a temperature can be maintained equal to the one the plants grow in when in their native home. It may not be uninteresting to some of your readers to make here a few remarks concerning temperature, and plants kept in the five principal departments.

1. The Orangery.—In this house Oranges, Myrtles, Pittosporums, and other of the hardiest exotic plants, are kept during winter. Temperature, 40 to 45 degrees Fahr.

2. *Conservatory.* 40 to 50 degrees Fahr. The plants in this house are mostly all planted in a prepared border.

3. *Green-house.* Here are kept plants which are natives of New-Zealand and the Cape of Good Hope. Temperature, 45 to 50 degrees Fahr.

4. *Hot-house.* This house is more used than any of the others. Here a temperature between 55 and 60 degrees Fahr. is maintained, and it serves to keep some of the hardiest stove-plants, and the more tender green-house plants.

5. *Stove.* The greatest heat is kept in this house. The plants are natives of the tropics, and require in the winter from 75 to 80 degrees Fahr. If we, therefore, wish to have fine specimens of Camellias, our first object must be to place them in a proper temperature.

Temperature.—Notwithstanding the Camellia is a native of China, it will thrive best in the green-house—temperature, 45 to 50 degrees Fahr. If placed in the hot-house, in order to get the flowers earlier, they should not be crowded together with other plants, but placed by themselves in the coolest part of the house, where they can have plenty of air and light.

Any sudden change of temperature should be avoided as much as possible, as the Camellia is liable to drop its flower buds when this takes place. During winter, when the weather is mild and warm, do not neglect to give plenty of fresh air. A great deal of care must be taken not to give bottom air, unless the weather is very mild; in fact, in a well-arranged green-house, sufficient air can always be given by lowering the top lights. Towards spring, when the weather commences getting warmer, the Camellias should gradually be hardened off until it is time to move them outdoors. The best place to stand them is against a northern wall, or on the north side of a building, where they will be sheltered from the direct rays of the mid-day sun, which is very apt to burn the young and

tender shoots. Avoid placing your plants under trees; if no better place can be found, a temporary shed should be erected.

Soil.—A superficial glance would no doubt make us draw the conclusion, that there was no need of being very particular in regard to the kind of soil best adapted for those plants we wish to cultivate; but a closer investigation will tend to convince us that such is not the fact. When we remember that the soil is the principal agent from which the plants draw their nourishment through the roots; and when we cultivate a plant it is not enough that it grows, but our object must be to give it substances which are needful, in order that the plant may develop itself and attain the greatest perfection. Prof. Justus Liebig justly says: "Give —so says the rational theory—to one plant such substances as are necessary for its development, but spare those which are not requisite for the production of other plants that require them." We have, therefore, only one true course to pursue, and this is to inquire, In what kind of soil does this plant grow in its natural state?

[*To be continued.*]

DIGESTIBILITY AND PROFIT OF NATIVE GRAPES.

BY DR. J. S. HOUGHTON, PHILADELPHIA.

In the Horticulturist for January, I presented some remarks on the "value of native grapes," in which I asserted that common, ill-ripened native grapes are highly indigestible, and that violent deaths had been caused, in the vineyards near Cincinnati, by eating rather freely of the Catawba. These positions have both been very emphatically denied by several writers, and surprise has been expressed that I should state as facts things which to some persons seem so incredible. I therefore, in self-defence, propose to say a few words more on these points.

The question of the digestibility or indigestibility of native grapes might be settled by reasoning upon physiological principles alone. We know that substances are more readily digested in the stomach when finely divided by mastication, and reduced to a pulp-like mass, which can be freely saturated or permeated by the gastric juice; and that food is more difficult of digestion when passed into the stomach in the form of solid masses, of close texture, which can not be penetrated by the digestive fluid, but must be dissolved slowly from the outside. Hence a cube of pork, or a piece of hard-boiled white of egg, as large as a nutmeg, will remain in the stomach undigested for six or eight hours, while particles of animal food, divided by chewing, will be dissolved in three and a half to four hours. Substances of a porous character, like bread, or fibrous, like beef, mutton, and fowl, are also easily digested, even in pieces of considerable size, because they can be penetrated by the gastric juice.

The pulp of our common (often not well-ripened) native grapes is a very dense, close, tenacious substance, not porous like bread, nor fibrous like beef, but firm in texture, almost if not quite water-proof; cold, slippery, solid, and evidently quite as indigestible as a cube of cold, fat, boiled pork. There is nothing in these grapes pungent, or stimulating to the stomach, to excite digestive action; but down they go, without chewing, and there they lie, as bad as so many hard apple cores, waiting the slow process of digestion from the outside of the various pulps, and wearying if not torturing the stomach by the unnatural effort.

So much for the philosophy of digesting native grapes. Practically, we all know that persons of feeble digestion are very shy of eating freely of native grapes, and those who do indulge in them occasionally, like to have a little good brandy at hand, to use as a medicine afterwards, to put the stomach into vigorous action, in order to get rid of the dangerous dose as speedily as possible. Mothers who are careful of their children's health are always cautious about giving them common native grapes, and hence their sale for use as a table fruit, is very limited as compared with strawberries, blackberries, etc.

If it were desirable, I could furnish a volume of testimony from physicians, as to the injurious effect of these grapes upon the stomach and bowels; but it is unnecessary, as nearly every person of any judgment in the matter of diet, is aware that there is no fruit so dangerous as native grapes when eaten freely, especially in the ill-ripened state in which they are usually sold in our markets.

Well ripened, tender native grapes, if eaten in moderation, especially with bread or other food, and divested of their seeds, are, beyond all question, highly refreshing and beneficial, as an article of diet, even to the sick.

Have deaths been produced in the vineyards at Cincinnati, from eating rather freely of the Catawba grape? This is a question of fact, not of opinion or theory. My assertion was based upon a good deal of minor testimony which I will not here detail, although I consider it reliable, but chiefly upon the following in the "Vine Dresser's Manual," by Chas. Reemelin, of Ohio, published by C. M. Saxton & Co., 1856, a work well known to all the leading grape-growers in the country. When I first made the statement in question, at the meeting in Brooklyn, I gave my authority. On page 85 of Reemelin's Manual will be found the following remarks:

"I would here warn against that voracious eating of grapes, while gathering them, which is characteristic of raw hands. Our [native] grapes have very large kernels, and very tough skins, and there is inside also a rather indigestible pulp. All these things are different in Europe. There the kernels are small, the skin very light, and the inside is almost without pulp. Persons in this country read of the grape-cure of Europe, and from this conclude that grapes are always healthy. So they no doubt are, if eaten in *small quantities*, and when *perfectly ripe;* but I know of *five deaths, within my own experience*, which, from unmistakable signs, *arose from eating too freely of grapes. One of these five* was a *most hearty* and

very intelligent young German, who laughed at all warnings, and would insist that grapes were surely healthy at all times of the day, and in any amount."

These are the facts and the testimony. I believe the witness is a credible one, and the record has never been disproved. I earnestly advise our friends in New York, who sometimes eat five pounds a-day of native grapes, to heed the solemn "warning" above given, lest they should meet the untimely fate of the "voracious" eaters of native grapes "out West."

In respect to the profit of native grape culture, the most exaggerated statements have been published by parties interested in the sale of plants. The truth is, that the losses from attempts at vineyard culture in this country have been enormous, and the profits are never very great. We are constantly told, that it will pay to invest $4,000 in the preparation of an acre of vineyard, and that such an acre will produce from $500 to $1,500 per annum; one writer says he can plant 1,000 Concord vines on an acre, which will produce 25,000 pounds of grapes per annum, which, at 10 cents per pound, amounts, as will readily be perceived, to $2,500.

Now the usual product of an acre of the small fruits, (strawberries being the most profitable,) is only about $300 to $500, generally less than $200. At and near Philadelphia, native grapes, for the last ten years, have been less profitable than any other small fruit, for the reason that there has been no success in their culture. Since writing my first article on this subject, I have learned many facts which sustain the statements then made.

At a meeting of the Fruit Growers' Society of Eastern Pennsylvania, held at Lancaster, Feb. 5th, the question was directly presented to the Society, whether native grapes could be cultivated in vineyards, on an extended scale, with profit. There were present several extensive dealers in native grape vines, and numerous cultivators of the vine for market fruit. Not one person could be found to say a single word in favor of the profit of native grape culture, in the open field, for market purposes. On the contrary, several leading cultivators and dealers in vines, candidly confessed that the chance of profit from this source was more than doubtful. Mr. R. A. Grider, of Bethlehem, stated that he had a vineyard of seven acres, now seven years planted, which he considered a total failure as to profit, his greatest product, owing to injuries from frost, mildew, and insects, having been only about $50 per acre, and even this he was apprehensive he should never see again. Mr. Grider is a very intelligent man, and a skillful cultivator. The sketch which he gave of his misfortunes in grape culture, of the killing frosts, the blighting mildew, the destructive insects, the fungus, excrescences, rot, and other "moving accidents," which had attended his experience, exceeded any thing we have before heard, in this way, from any quarter. The beetles, borers, sawflies, grubs, curculios, and other cutting, gnawing, boring, and leaf-devouring insects which had infested his vineyard, were some of them new and remarkable in their character, and altogether presented an army of enemies truly appalling. I

have since heard of many failures, in vineyard culture, near Philadelphia, and I have yet to hear of a single case of positive and satisfactory success.

But what is the fact at Cincinnati? Is the success and profit very great there? By no means. There is much mildew and rot there, and vast destruction by vine beetles; and the total product per acre, in a successful season, in far less than the product of a decent acre of strawberries. I have the facts and figures before me, right fresh from Cincinnati, and from an authority which I presume will not be questioned.

R. Buchanan, Esq., of Cincinnati, writing under date of Feb. 15, 1862, makes the following precise statement:

"I cultivate seven acres, 20,000 vines. My vineyard is in a good position. For fifteen years it has averaged 308 gallons of *wine* to the acre, which has been sold at $1.00 to $1.50 per gallon for the best. About one-sixth is inferior, and sells at half-price.

"Our *average* in *well-cultivated vineyards* is about 200 gallons to the acre, which is the same as in France and Germany."

From this it appears that the best cultivator in Ohio scarcely realizes $300 worth of *wine* from an acre of vineyard, even after all the trouble and expense of manufacturing the grape juice; and other *well-cultivated* vineyards obtain less than $200. Now what must be the product of the *common vineyards*, where the vineyardist is compelled to sell his *grape juice* to the wine-makers, at what he can get, instead of making wine himself? Grape juice is more perishable than green peas, and if not of good quality, cannot be sold at 50 cents a gallon. What luck, also, for the poor vineyardist, when he gets frosted, mildewed, and bug-eaten?

In France and Germany the product, Mr. Buchanan tells us, is the same per acre as in Ohio. We knew this before; and we knew further, that vineyardists, or vine-cultivators, (not often the owners of the land,) and the fishermen and shrimp-gatherers of the world, are universally about on a par as to the profit to be obtained from their respective pursuits.

A few words of personal explanation, in conclusion. This discussion appears to place me in the attitude of a determined opponent of native grape culture. Such is not the fact. I have only opposed the exaggerated statements of dealers in grape vines. My positions have been briefly, 1. That there has been no good success in vineyard culture at Philadelphia. 2. That common, ill-ripened native grapes, are very indigestible and dangerous to delicate children and persons of feeble digestive powers. 3. That deaths have been produced at Cincinnati by eating too freely of Catawba grapes. How far I am sustained by facts I leave the reader to judge.

On the other hand, I believe that native grapes, in sheltered situations, and in city yards, furnish a very useful, agreeable, and often profitable product, when grown to such an extent only that the fruit can be consumed by the grower, or sold at *retail*, in good condition.

I am quite ready to admit that many persons like the flavor of native grapes quite as well, or even better, than that of any hot-house grape; and that much improvement has been made, of late years, in the varieties cultivated. The truth, as to profit, is perhaps quite encouraging in some instances, when a crop is obtained, although the rapid increase of mildew and vine beetles is rather threatening. Still, with the undying hope of an earnest fruit cultivator, I keep on trying. I have upwards of 2,000 native vines in full bearing condition this season, and I hope to get a crop, though with some fears for the result. The Delaware I think the most promising of all the native grapes; but we are charged by leading dealers $3.00 a-piece this spring for Delaware vines fit to plant. The difficulty of propagating the Delaware successfully and speedily, of course renders the vineyard culture of this grape at present out of the question.

I beg all writers for horticultural journals to take notice that I have no desire to prevent the cultivation of native grapes. On the contrary, I am ready and willing to give them all the consideration they deserve, and shall hail with pleasure any improvement that can be made in their quality, or in their cultivation. I trust no one will again feel called upon to abuse me for telling a few wholesome truths about them. Let writers at least not try to make me appear, what I am *not*, an inveterate opponent of native grapes.

[The doctor, we are glad to perceive, has more clearly defined his position, and leaves us in less doubt as to his real opinions. It is common, ill-ripened grapes that he considers indigestible, such as are usually sent to the Philadelphia market, and, for that matter, to other markets. But the remark should not be confined to native grapes, and doubtless would not be if the Doctor were speaking of fruit generally; it is equally applicable to all fruits. In regard to the deaths at Cincinnati, vouched for by Mr. Reemelin, it seems clear that the persons referred to died, not, in fact, from the simple act of eating grapes, but in consequence of consuming them in an unripe, crude condition, seeds and all, and like gluttons. The best gifts of Providence are daily abused in a similar manner, and often with like consequences. How many are yearly sent to untimely graves from eating unripe fruit. The profits of grape growing will form one of our articles on grape culture, and we leave that part of the subject for the present. Like other kinds of culture, it has its conditions; where these are present, it is decidedly remunerative. The cause of the failure of vineyard culture at Philadelphia we can understand in part, but not fully; we mean, if possible, to get at all the reasons. That there are native grapes that can be successfully grown at Philadelphia, we have not a doubt; and we expect the Doctor to grow them. The price of Delaware vines this spring is very much less than the sum named, and they will soon be within the reach of all. We record with pleasure the Doctor's declaration, that he is not an opponent of native grape culture. This at once removes him from a false position, while it leaves him fully at liberty to discuss the merits of the subject. The length of the Doctor's article precludes other remarks for the present.—Ed.]

WHAT'S IN A NAME?

BY PRATIQUER.

Men of science have conceded the privilege to the first discoverer, propagator, producer or describer, of a tree or plant to give it a name, which shall take precedence of any that may ever after be given. My attention was drawn to this subject on an examination of numerous catalogues, which have been sent to my address by friends who are aware of my weakness on the subject of grape-culture. The prevailing *fashion* among cultivators is to name each new grape in compliment to some loved female, whose name has become not only a household word, but is idolized for the many virtues of its possessor, and consequently to the person using it is expressive of high excellence; but does the grape public appreciate the name in the same manner? or does it not rather convey an idea of effeminacy? I will readily award to the sponsors a degree of affection and veneration for the sex, in which I hope I am myself not deficient; but how does it look? how will it look in the next century? The grape-vine, like the raven, lives seven hundred years. These ladies' names may all become obsolete while the vines are still young. They are all well enough when applied to but few; when we had but few native varieties, and expected no more, Isabella, Diana, and Rebecca were well enough; but their name is soon to be legion, and we are running the thing into the ground in more senses than one. Multiply the female names, and every producer of a new variety may have his Mary, Mary Ann, Cecilia, Clara, Dorinda, etc. We already find the names duplicated; thus we have two Annas, Anna Reid and Anna Grant; two Emilies, Raabe's and a foreign seedling (Creole). Mr. Allen and Mr. Rogers are producing new grapes by the score; some of them are destined to be remembered when this generation has passed away. If female names are only to be given, they must begin the alphabet, and use every one in the list for their numerous progeny, using each name many times over; and then the name of the producer will be required as a surname, to identify the plant; thus we may have Abigail Reid, Agatha Grant, Agnes Raabe, Althea Allen, Antonia Rogers, etc., to the end of the chapter. I admit this is not without precedent, and these names Latinized might appear as high-sounding and be as unpronounceable as those already applied to our Flora. *Our* grape-growing is an American institution, and we should have plain, distinct, American names, expressive of something indicating origin, locality, etc. Now who can mistake the Mustang, Ozark, Catawba, Venango, Wyoming, and Adirondac? Does not the mind at once wander from the plains of Texas to the mountains of Missouri, South Carolina, Pennsylvania, and to the great Northern lakes, and fix the locality of each? Does it not comprehend at a single glance that the former is not suited to high northern latitudes, while the latter find their congenial clime there? The names of our mountains and rivers will supply names for all the really valuable new varieties which may be introduced during

the present century, and I recommend that they be freely used, instead of the female names, for such new varieties as may be hereafter introduced. There are many other names not objectionable. "Iona" tells its own story, and announces its origin and its author. "Eureka" is good, provided we have really *found it.* Hartford Prolific is all right, but let us then ignore all other "Prolifics." Every bearing grape is so, if allowed to roam. *Seedling* as an adjective is inadmissible and creates confusion: all new varieties are seedlings.

[At first we thought some fair one had been abusing Pratiquer, and he was writing in a "miff;" but he seems to be in earnest. We can not help thinking it a little strange, however, that he has no fault to find with *male* names. Having for many years done more or less in the way of naming fruits and flowers, we have been all over this ground, seen its difficulties, and may be supposed to have some knowledge of how best to meet them. To confine plants of any kind to one class of names, would certainly be objectionable; but no one, we believe, has yet proposed this. We know of no class of names, be they of rivers or mountains, that are not open to precisely the same objections as female names. These last are in no more danger of being duplicated than the others. Pratiquer is mistaken in supposing that we already have two Annas and two Emilies. There is but one Anna, that named after Dr. Grant's daughter: there is no Anna Reid. Judge Reid did, indeed, think of naming one of his seedlings Anna, not knowing that there was already a grape of that name; but he has not done so. So, too, we can no more say that there are two Emilies than we can say that there are two Delawares or Isabellas. A grape was sent out for the Emily, which proved to be something else; but a mistake of that kind, of course, would not make two Emilies. The fears of Pratiquer, that we shall have to resort to surnames, are purely imaginary; there is no room to anticipate such a contingency. Pratiquer thinks we should have plain, distinct names, indicating origin, locality, etc.; and in this we agree with him, so far as conferring such names is possible; but the end is soon reached. We differ from him, however, in the conclusions he draws from such a nomenclature. It so happens that of the origin of many of the grapes he names, we know next to nothing, and their names are no indication at all of their hardiness. Take the Catawba, for example; no man has yet been able to tell us where it originated. The Isabella is supposed (and it is a mere supposition) to have originated farther south than the Catawba, and yet we all know it is a hardier grape. It would be easy to show that the locality where a seedling originated forms no safe indication of its hardiness; it is a good deal more important to know where the seed came from. We have named one seedling after the place where it originated, not because we think it will form any indication of its hardiness, (we have every reason to think quite the reverse,) but because the name happened to be a good one; we meant the name to be purely complimentary. Now we have two others from the

same place; but how will origin or locality help us here? In regard to our mountains and rivers, their names, many of them, are altogether unexceptionable, but they would be no index to hardiness, and we can not perceive in what respect they are in better taste than the names of our women. "Iona" may tell its own story to those who know its origin, but to many it may tell "a tale of an Eastern clime;" it is a good and classic name, notwithstanding. We are quite willing, too, to admit that "Eureka" is good, but we can not perceive wherein it is better than Diana. "Adironac" is likewise good, but every man of taste will say that "Rebecca" is better. To make a long story short, we will simply say, that naming plants is mainly a matter of good taste, and the judicious use of female names can not, therefore, be dispensed with. We propose to make a moderate and modest use of them, and give our American women a worthy place by the side of our majestic mountains and rivers.—Ed.]

A CHAT ABOUT GRAPES.

BY EX-MEDICO, CLEVELAND.

Friend Mead:—A stormy day and a *good* cold conjoin to keep me in-doors to-day, and this has been pretty much the case for several days past, so that I have read up the "Horticulturist" and "Monthly," and other fireside companions, and am rather at a loss how to amuse myself this morning; so I set down to have a little Horticultural chat with you. Well, what shall be the subject? "Grapes." So be it. I confess to have a little of that mania, just a little. New grapes? Bah! you don't call the Delaware *new*, do you? It is an established institution. Who cares whence it came? I like to know whither a few of them go. If I had a hundred acres in fruit bearing, I should have no fears about them all going. It appears to be overcoming the debility engendered by improper propagation. This propagating from the weak and succulent laterals I regard as wholly inexcusable on the part of any honest nurseryman. I would rather have one good healthy plant than to have a dozen of such. "What about the Cuyahoga? You are expected to know something about that." Well, let me say that my confidence in its superior excellence is unabated, although the last two seasons have not presented fruit equal to its former character. "Why?" First, remember there is but one vine of any importance: with eyes selling at 25 to 15 cents each, of course they are of more importance than fruit. The summer of 1860 was one in which the mildew affected our vines to an extent I had never known before; even the Clinton and the forest vines were much affected by it. The foliage of the Cuyahoga was very considerably, and the fruit somewhat, affected by it for the first and only time in its history; consequently, it did not attain its usual character, although from it many of the highest expressions of opinion were obtained. The Isabellas beside of it produced no fruit worth gathering.

On the second morning of May, 1861, we had a severe freeze. Ice from ½ to ¾ inch thick. The young shoots on the vine had advanced from 1 to 2 inches. They were, of course, all killed. The secondary bud had then to throw out, on which some fruit was borne, but of course *much* later, and, consequently, the fruit failed again to come to its usual character; but on my Delawares, Dianas, seven E. N. Muscadine, (pardon me,) although my vines were strong, I did not have any fruit from the same cause. Nor, aside from the *severe* amputations, is the vine in the culture and condition from which you and I would expect the best results. Next season we expect many of the vines distributed over the country, to be in bearing. Have we a right to expect it to have its perfection of character the first season? I *believe* that is not the present theory in regard to new fruits, especially vines, by our best Pomologists. Tell me, is that so? You say, yes. Well, I agree with you; but what say *other authorities*? I see, from the proceedings of the Cincinnati Horticultural Society, Mr. S—— brings in a few bunches of the Taylor's Bullitt. First fruits; don't say how cultivated; at least they don't report; thinks he has been humbugged. Society passed a resolution, which it reiterated next meeting, "Taylor's Bullitt unworthy of cultivation!" It *may* be so; but, gentlemen, I should like to have a little better evidence. Are you not hasty? Did you, or did you not, about the same with the Delaware? "By their fruits ye shall know them," (the grapes I mean,) yet not always by the first crop; possibly they, like some of our young America, *may* bear a crop of *wild* oats first, then the good fruit. I might cite another instance on the same grape—here in Ohio—by a distinguished Pomologist, but I forbear. Time will tell whether they hit or missed. I think such judgment about as good as a sharp Yankee's *guess*.

We *thought* at first that the Diana was a humbug; like it better since, and better still. Am glad I did not think out in meeting at first. Concord and Hartford have about the same history here. Advice—try, TRY all things first; be not too hasty in condemning. "Do you mean this as a kind of anticipatory apology for the Cuyahoga?" Not a bit of it. I believe it will fully meet all the *reasonable* expectations in regard to it from the first; but it is the theory, the rule that should usually be applied to all, and *may* be needed in regard to it. Another fact. It is undoubtedly true, that some soils and climates are better adapted to some varieties than others. Instance, the Catawba, ten miles inland from the lake, on clayey soil, is "unworthy of cultivation;" it rarely ripens. On the sandy soil along the lake shore it generally ripens; at the islands, on clayey limestone soil, it always ripens, and presents an evidence of quality I have not met with uniformly any where else, and is eminently worthy of cultivation. In comparing the quality of the Catawbas as grown on the sandy soil along the lake shore, I do not think them equal to those grown in the limestone soil about Cincinnati or the islands; but I think our Isabellas are decidedly better than I have seen from either place; not only better in quality, higher flavor, but much larger in size.

While I have you by the button, I feel like saying a few things about the character to be sought in grapes. We don't want them all for the table; a few for wine; a little wine for the stomach's sake. It is not every good table grape that will be a good wine grape, and *vice versa*, (you understand Latin.) The flavor of the table grape may be too subtle to be preserved through the process of fermentation, etc.; so we need a stronger aroma—bouquet, (bouquets have aroma, don't they,) to give character to the wine. But what is wine? the fermented juice of the grape. Not always, you say. Isabella and Concord, etc., you say, won't make wine. Well, that beats me. But you are impatient, so I will stop. Having had my say, I am all attention. You are too tired listening to talk any. Very well; let us take a ride into the city. No, it is too cold and stormy. Then come back again any time between May and November, except when it is too dusty, and we will take a ride and see the sights, for I hold that no man of good taste like you should be willing to die without having seen Cleveland.

[So now we have an *Ex* as well as an *El* Medico. We do not care how much that family increases. In regard to new grapes, it will be several years before a new kind shows what it really is, as grape matters are now conducted. One vine at least ought under all circumstances to be grown for fruit. The Cuyahoga will, no doubt, take its place permanently among good grapes. You have answered all your own questions, and have left us little to do in that way. So it beats you that the Isabella will *not* make a good *pure* wine. Well, now, when you light upon a sample of wine made from Isabella juice without any addition whatever, send it along to our sanctum; we'll have a glass case made for it, and send it down to posterity. We have never yet seen such a thing, neither have we seen a wine-maker who would venture to say that it could be done. The Isabella will make a good pure vinegar, but it will not make a good pure wine. You had better not repeat that invitation for a ride, unless you are in downright earnest about it, for some fine morning we shall be right in your midst.—Ed.]

ROGERS'S HYBRID, No. 4.

(*See Frontispiece.*)

BY THE EDITOR.

We have lately been several times thwarted in getting up our monthly frontispiece. We had the Creveling grape, but that was destroyed by fire. We had also the Emma Cheney Dahlia, but that too was spoiled. We had, again, a plate of Dailledouze's Seedling Carnations, but the original drawing mysteriously disappeared just at the moment our colorist wanted it. We are patient, but somewhat mistrustful, and hardly know whether it will be safe to say that we have Rogers's Hybrid this month, till we actually see it in print. We feel a deep

interest in these Hybrids, not only as setting at rest the question of the practicability of crossing the native and foreign grape, but as introducing a class of grapes which may hereafter prove of great value. They will also furnish a common ground where the champions of foreign and native grapes may meet in peace. Mr. Rogers's modesty has kept him altogether in the back-ground, and the results of his experiments have not been known and appreciated as they deserve to be. The field of hybridizing grapes has thus far been exclusively occupied by Mr. Rogers and Mr. Allen, and worthily occupied. We hope they will both continue labors so auspiciously begun.

Our frontispiece scarcely does justice to No. 4; the berry is nearly of the right size, but the bunch is usually larger, and often shouldered. "Infant" grapes are seldom or never shouldered; shoulders are the result of age. No. 4 is a cross with the Black Hamburgh, and shows it quite distinctly. We have only seen the fruit of this and one other of Mr. Rogers's Hybrids, but he considers it one of the hardiest and most productive of them all. Mr. Wilder, who is familiar with the whole collection, describes No. 4 as follows: "Color, dark purple; clusters large, frequently with shoulders; berries large; flesh tender, sweet, vinous, rich. An early variety, and perfectly hardy." We should be glad to know that these grapes had found their way to every section of the country, in order that their hardiness may be thoroughly tested, for on that will depend in no small measure the value of these very interesting experiments in hybridizing the grape. We have learned with a good deal of pleasure that Mr. Rogers has crossed his Hybrids with the Muscat of Alexandria, the Frontignans, and others, and that some of these seedlings will fruit the coming season; thus we are in a fair way of soon learning how far hybridizing may be carried with profit. An important object to be kept in view, is the working in of sufficient native stamina to enable the vine to withstand the vicissitudes of our climate without becoming a prey to mildew and other fell diseases. In any view of the matter, however, these experiments are full of deep interest.

THE PATENT OFFICE REPORT OF 1860.

BY DR. GEO. PEPPER NORRIS, WILMINGTON, DEL.

It affords us much pleasure, Mr. Editor, to send you a little synopsis of the Horticultural department of the above-named Report. Especially gratifying must it be to every one interested in horticultural matters to find the considerable space allotted to articles pertaining to Gardening; this is the more pleasant, when we bear in mind the character of former reports emanating from this source. We should not have to go back very many years to find volumes filled with statements from miscellaneous individuals in all parts of the Union, and on most every other subject we would discover something of interest except in the

Horticultural department. The reports issued during the past few years have all been improvements on their predecessors, until that of 1860 is rendered positively striking by the prominence given to Horticulture. All this is very encouraging to those interested in trees and vines, and we live in hopes of seeing a Report from this office which may embrace an essay on Landscape Gardening.

In the preliminary remarks we read, "Cuttings of superior native vines have been received from cultivators and amateurs. These will be propagated with care, and will afford interesting opportunities for making experiments in hybridizing with foreign and other unacclimated varieties." Although not an enthusiast for native grapes, it is very satisfactory to know that there is at the Capitol of the Nation an opportunity of testing all, and giving an impartial report of desirable kinds. That the native grapes should receive the attention of those dwelling in cities, where their vines are somewhat protected from the early frosts and from insects, is, we think, all well and proper; it is to the advantage of every landlord to have a trellis of pruned natives attached to his domicile. Houses on which grape vines are trained always rent to greater advantage, and this also should stimulate the owner who has no horticultural turn; but that the cultivation of native grapes in the middle states will ever prove satisfactory or remunerative on a large scale, we have yet to learn.

But to the Report. "The Department has also given great attention and encouragement to the cultivation of the native grape, and the manufacture of wine therefrom; and there can be no doubt that its exertions have had considerable influence in causing many intelligent persons to engage in this important branch of industry." So far so good. The Patent Office Gardens are the proper place for experiments; but in regard to the wine made from native grapes, we have yet to see the first that we can pronounce good. Selecting Mr. Longworth as the fit representative of American wine manufacture, we obtained direct from him a box containing several bottles of each of his best known native wines, and we are sorry to say that they did not compare with those of French origin, and were only obtainable at a higher price. Our remarks have no application to California, where we understand good wine, particularly the light sparkling wines, are obtainable. On page 29 of the report, we find—"About 135 varieties of grapes are now in the course of experimental culture. Catawba is placed first on the descriptive list; slightly pulpy. Ripening late, it does not succeed well north of Pennsylvania and Ohio; it is the most general reliance for wine making in the regions to which it is adapted." And we can add without hesitation, that the best American wine that it has been our fortune to drink was made from the Catawba, although not at all comparable to wines of French origin, at the same price.

"*Concord.*—Hardy and productive, fruit large, oval, black, sweetish, though pungent and musky, improving with the age of the vine. Ripens at Washington in the latter part of August; and is a fair table grape, but more desirable for wine-

making." Concord wine we have never tasted, but regard the Concord decidedly the best native grape *at present* for the purposes of general cultivation.

"*Delaware.*—Clusters small and compact; berries small and round, light red, juicy, pulpless, and very sweet; is an excellent table grape, and will become popular for wine-making. It is subject to mildew; has proved a slender grower at Washington, where it ripens late in August; but the testimony of cultivators is conflicting on this head. It is hardy, and adapted to the middle and northern states.

"*Diana.*—Hardy, strong grower, very prolific, ripens south of Boston late in September. Clusters medium size and compact; berries light red, small, round, sweet, and slightly pulpy; keeps well through the winter. Valued for table use, and will become profitable for wine: one of the most desirable." A much better character, we think, than the Diana deserves after trial.

"*Hartford Prolific.*—Hardy, vigorous, and productive; clusters compact, and of medium size; berries round; aroma slightly foxy; flesh sweet and pulpy. Ripens at Washington early in August, and is best adapted to the central states and the north.

"*Isabella.*—Excellent for the table north of Maryland, although inferior in its native South; prolific, pulpy, and sweet. Ripens at Washington in September." Sparkling Isabella wine is very poor stuff, to our mind.

"*Rebecca.*—Clusters long and tapering; berries medium size, oval, green when shaded, of golden hue in the sun, very juicy, sweet, and pulpless. Suited to table use. Prospers south of Massachusetts; best probably in the latitude of Pennsylvania, where it ripens in September. It grows well generally, but very rapidly for the first four years. The vine is somewhat subject to mildew." The last sentence is undoubtedly correct.

"*Union Village.*—Introduced by the Shakers from seeds of the Isabella; best adapted to the central and northern states; growing vigorously and producing, very large berries in large, compact bunches; is pulpy, juicy, sweet. Probably the best native grape in cultivation." Doubtful.

These are the native grapes described, and are the only ones now ready for distribution; they are to be had for nothing by applying to the Patent Office. Among the list of native grapes now in course of propagation, embracing some 60 varieties, we select the following, and would like to know if any of our grape growers have heard of one half of them before—they are new to us. Here are some of them: Dracut Amber, Trollinger, Lincoln, Downer, Sage Grape, Plymouth, Black Fox, Red Fox, Crystal, Mustang, Elbling, Parker's Rocky Mountain Seedling, Wise, Tennessee, Parker's Improved Isabella, Guesta, Grevadulay, Rulœder, Woodford, Saluda, etc.; so if any body wants a name for a new grape, here is a fine lot. Seriously, Mr. Editor, to use a slang phrase, it is running the whole thing into the ground.

Lamentably meagre is the catalogue of Foreign grapes for distribution; and it

would take several of the new Treasury Fives to induce us to give any one of them a place in our vinery. It is stated that they are believed to be of tender origin, and best adapted to regions south of Pennsylvania. We fear the propagator will not be troubled distributing many of them this year. Here they are:

Hungarian—Bakater, Chasselas white, Dinka green, Dinka red, Honey white, Funnint, Katarka, Keskesoes, Muscatel green, Muscatel red, Muscatel yellow, Muscatel white, Puisin blue, Paxesin blue, Riner red, Rosas, Schenkem white, Semedria, Sheeptails, Silver white, Todar white, Tokay, Tokay white.

This list, the Report states, is only to be distributed in limited quantities; but owing to none being distributed at the South, where they were intended, we presume, any one fond of experimenting with the new foreigners can, we have no doubt, be supplied. We think it would be useless to attempt them out of doors, north of Pennsylvania. Among the list of foreign vines in course of propagation, we are glad to recognize the Hamburghs, Frontignans, Muscats, etc.; also several of which we have never heard.

Among the plants for distribution, and to be had on proper application, gratis, are, the Osier Willow; although many years in culture in the United States, it is unknown in many regions, and will prosper wherever moist lands prevail. About 8,000 were ready for distribution last spring.

The Carob Tree, propagated from seeds and cuttings from Palestine. About 8,000 were also ready last spring. In addition to its desirableness as a producer of fruit, it is thought that it will prove valuable as a hedge at the South, when judiciously pruned.

"The fruit of this, the Carob tree, is largely exported to Russia, where it is much esteemed as an occasional article of diet, and for a beverage brewed from it. It can probably be raised in every portion of the United States south of Pennsylvania; is an admirable shade tree.

"Sessaban, an evergreen of Syria, and such in the southern states, but a deciduous tree at the north, has a delicate leaf, and a pendant, globular flower, somewhat like the Sycamore ball, and highly odorous. It is esteemed as an ornamental tree, but is chiefly valued as a hedge plant, and is a rapid grower. 3000 ready last spring."

"St. Johnswort, (Hypericum corymbosum,) indigenous south, but little known throughout the country, hardy at Washington, and may succeed further north. Ornamental shrub, blooming in early spring. 3000 ready last spring."

"Stone Pine, (Pinus pinea,) common in Syria and Southern Europe, but little known in the United States. It is of loose growth, with straggling, pendant branches; the foliage handsome, of bluish tinge."

Arbor Vitæ—Chinese—1000 ready, with an increased number this spring (1862)."

The Siberian is in every respect superior to it. Among the plants in course of propagation for future distribution noticed, are the Colocynth, an annual, creep-

ing vine, to be cultivated as cynilius and cucumbers are; is said to grow luxuriantly on the plains of Sharon, a single vine producing more than one hundred fruit. This plant is possessed of well-known medicinal qualities.

"The Pistachio tree, will only succeed at the south, grows 25 to 30 feet high, bearing a fruit about the size of an olive; the nuts are well known in the European markets."

"The Date, only for the extreme south, where it will prove an evergreen. It attains a height of sixty feet."

"The Prickly Pear, for the central and southern states; fruit about as large as the fig; sweet and juicy, covered with small spines: said to be wholesome."

Squill, (Scilla maritima,) bulbs, coated like a common onion, will only succeed in the South; much employed on account of its medicinal qualities.

Olive cuttings for North Carolina, South Carolina, Tennessee, and Florida.

Khalebs, tubers, about the size of hen's eggs, resembling yams, only used when cooked, and much esteemed by the poor of Syria, from whence it was obtained.

Seedless Pomegranate, has highly ornamental properties, producing bright scarlet flowers, semi-double, in autumn. Will thrive in moderately moist soils south of Washington.

It can not be denied that at the present time many of these products lose their interest for us, the people for whose benefit they were obtained being engaged in an effort to overturn the source which was providing them with productions with which their homes would have been beautified and their wealth increased.

Articles on Fertilizers, Irrigation, Bee Culture, Pisciculture, as well as observations on English Husbandry, and on the Cattle Disease, all very properly occupy a considerable portion of the volume. An important paper on Insects injurious to vegetation, especially insects injurious to fruit trees, will not be overlooked by the horticulturist, and only a want of space prevents making valuable extracts therefrom.

Wine making is treated at length, and Grape Culture comes in for a fair share of attention.

"The Culture of Grapes in Graperies" will be the means, we hope, of disseminating information which will lead to the erection of many of these truly indispensable structures.

"Forests and Trees of North America," is the subject of another paper.

"Tea, its Culture and Management," with a series of illustrations, concludes this interesting volume. A brief notice of the success in growing and maturing gooseberries, by the Horticultural Association of Paterson, N. J., is appended. European plants and cuttings have been obtained, from which berries were grown, one of which (Speedwell) weighed twenty pennyworths, seven grains; and another, produced July 16, 1859, weighing twenty-two pennyworths, nine grains, being the largest of the kind grown, even in England, in the two previous years. The report says, "It is thought that many years will not elapse before the goose-

berry will be produced larger and purer in the United States than in any part of England."

[We participate very cordially in the gratification expressed by Dr. Norris, that some prominence has been given to horticultural subjects by the Patent Office Department. If rightly managed, much good will result to the whole country. We hope the government seed business, however, as at present conducted, will be abandoned at once and forever. Some good things have undoubtedly been distributed, but with them a great mass that never should have emanated from such a source. We are very far from objecting to the distribution of rare and valuable plants and seeds; but it is only a few days since that we received from Washington, done up in a neat paper bag, *three* Windsor Beans! Who could have supposed that a great, wealthy, and enlightened government distributed Windsor Beans to its people in triplets? Out of a dozen packages, there are but two that should have been distributed in this way at all. We solemnly protest against this abuse of the public funds, especially at a time when we are suffering all the privations of a wicked civil war. We speak warmly, but without a particle of ill-feeling. We can not help thinking, however, how much good might be done if this money were appropriated to the employment of suitable persons in the exploration of new fields, many of which would yield the richest horticultural treasure. This would indeed be a worthy employment of the public funds. Is there nobody at Washington who will think of this? Our experience with native wines has been more fortunate than the Doctor's. We have always been careful, however, to compare them only with foreign wines of their own class. We have nothing as yet but dry or sour wines that deserve the name of wine. These, of course, must be compared with German or Rhine wines; and we have two or three that will compare well with them; Mr. Mottier's, for example, will not suffer by the comparison. To judge from what we have seen, it will not belong before we have a very fair Claret. But it must be confessed, that as yet we have very few good wines. Sweet wines we have none. Sparkling Isabella you have well characterized as "very poor stuff;" at least we have seen no other. The best wine that we have seen was made of the Delaware; next, Diana; next, Catawba; though we have seen some from the Lincoln that we are disposed to place somewhere between them. We think the Report right about the Diana; when well ripened it is a delicious grape. It is not free from fault, however. The Union Village is undoubtedly overestimated: it is by no means our best native grape. The lists of grape vines contain little or nothing that is new. The Hungarian list we threw over the fence years ago. Hundreds of others all over the country have tried them, and found them wanting in adaptation to our climate. Good, however, will ultimately come out of the experiments at Washington.—Ed.]

EDITOR'S TABLE.

To Contributors and others.

Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to MEAD & WOODWARD, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "THE HORTICULTURIST."

NOTICE.—We have to request that all business letters be addressed directly to the Proprietors, 37 Park Row. This will prevent much delay, and obviate many mistakes.

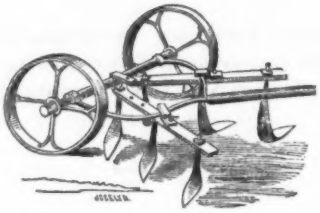
THE EMMA CHENEY DAHLIA.—We have been greatly disappointed in not being able to give this beautiful Dahlia as a Frontispiece. We mean to do so yet for the sake of its merits. We had selected it from among Mr. Richardson's choice collection of seedlings as a representative Dahlia, being, indeed, one that will take a lasting hold on the affections of the amateur. We are fairly in love with the beautiful object. Such of our readers as fail to get Emma Cheney will miss a treasure. While saying this, we do not mean to detract from the loveliness of Carrie Emmons, Debbie de Gray, Jeannie Tomkins, Mary Greene, and others; they are all charming. Did we not select and name them? And did we ever give a female name to any plant that was not beautiful and good? Never mind what that ugly Pratiquer says, but buy *all* the fruits and flowers that we give *female* names to.

A NEW NAME FOR AN OLD PLANT.—Our friend Mac, of No. 9 John St., somewhat noted for his dryness, (we do not mean that he drinks, of course,) proposed lately, that the Virginia Creeper should now be called the Virginia *Runner*—we suppose out of compliment to John B. Floyd and his associates. We wonder if Mr. Prentice, of the Journal, can't say something for Mac.

THE CREVELING GRAPE.—We expected to have presented the Creveling grape last month as a frontispiece, but it was destroyed by fire, and could not be reproduced in time. As an early grape, the Creveling deserves much consideration, especially in localities where but one or two of our best varieties will mature. It is equal to the Isabella, and at least as early as the Hartford Prolific. It has less

of the native aroma, and does not drop its fruit like the latter. During the cold winter of 1860–1 we found it among the hardiest of vines, and we think it will take a wide range of latitude.

Halstead's Patent Hoe.—Last winter we saw at the American Institute a new hand hoe or weeder, which seemed to us to possess merit, and we recommended that the inventor should be requested to have it manufactured for sale. This is now being done by Messrs. Haines and Pell. We present an engraving, which will



give the reader a better idea of the implement than a mere description by words. It can be closed or expanded, and thus adapted to any ordinary width of row. It runs easily, and can be worked by a boy. We have not given it an actual trial in the garden, but we think it is worthy of consideration. Mr. Halstead, the inventor, is a working gardener, and has used it for some time. We believe he has produced something which will be useful to his craft.

Raising Coffee in Illinois.—A correspondent, writing from Nauvoo, Ill., asks for information as follows: "I have lately seen an article in an Illinois political newspaper, in which a man from Effingham County, Ill., gives an account of his raising coffee there. He seems to think that he will be able to raise it in good quantity, and in quality nearly equal to the Rio de Janeiro. Can you give me some nearer information about it, or is it perhaps only some humbug, as the like many are circulating?"

We have to say in reply, that coffee can not be grown in Illinois. We can not say, without seeing it, what plant is referred to, but it certainly is not the coffee plant. That is a tropical plant, and can only be grown under glass in this climate.

Coal Ashes.—These are often wasted on walks, or left to accumulate for years in unsightly heaps. They are not without some value to the soil, and should find their way to the compost heap rather than be wasted. A correspondent suggests the following use for them: "As coal ashes contain but little of stimulating matter as a manure, it is scarcely considered worth the hauling for that purpose; but applied at the bottom of a grape-vine border, or below the roots of fruit trees, as a layer, for the purpose of drainage, it pays for the trouble. Where small stone,

oyster-shells, etc., can not be easily procured, the coal ashes will answer fully as well, or better even, as my slight experience has proved."—A. K.

A DOZEN GOOD ANNUALS.—A subscriber, whose letter has been mislaid, asks us to furnish him with a list of a dozen good annuals. We have made it up of free blooming kinds, and of the easiest culture. The Schizanthus, Asters, Zinnia, and Balsams must not be grown in close masses; the others may or not, as suits the taste. Here is the list: Phlox Drummondii, Mignonnette, Sweet Alyssum, Schizanthus, German Asters, Balsams, Clarkia, Candytuft, Ageratum, Lobelia, (speciosa,) Zinnia, Portulaca.

MR. WOOLEY'S VINEYARD.—Mr. Caywood has furnished us with the following additional facts in relation to Mr. Wooley's vineyard, which are not without interest:

"His farm contains 160 acres. His grain crops the past season were as follows: oats 20 acres, rye and wheat 15 acres, and 10 to corn and potatoes; also his usual hay crop. Mr. W. is now over 60 years of age, and with the help of one man and a boy, hired for eight months of the season, has done all the labor of the above crops, including the grapes before mentioned. Mr. Wooley thinks he has devoted one-fourth of the labor of the season to the preparation of a piece of rough land, on which he intends to plant grape vines. He also says he had some inferior grapes, which were not included in the four tons."

CATALOGUES, ETC., RECEIVED.

A. J. Caywood, Modena, Ulster Co., N. Y.—Fruit and Ornamental Trees, Vines, etc.

Catalogue of the Cream Hill Academic School, with an Agricultural Department, West Cornwall, Conn. S. W. Gold, M.D., and T. S. Gold, A.M., Principals.—In this institution the mind and body are alike cared for; a practice much to be commended.

W. Brown Smith, (successor to Thorp, Smith, and Hanchett,) Syracuse, N. Y.—Descriptive Catalogue of Ornamental Trees, Shrubs, Vines, Roses, Dahlias, Verbenas, Greenhouse and Hothouse Plants, etc.

J. J. Mapes, New York.—Nitrogenized Super-phosphate of Lime.

William Elliot, 31 John St., New York.—Descriptive Catalogue of Vegetable and Flower Seeds, etc.

J. M. Mattison, Jacksonville, Tompkins Co., N. Y.—Descriptive Catalogue of Fruit and Ornamental Trees. Also, Catalogue of Dahlias, Verbenas, Fuchsias, Petunias, Geraniums, Greenhouse Plants, Bulbous Roots, etc.

Lewis Ellsworth & Co., Du Page County Nurseries, Napierville, Illinois.—Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, and Plants, &c. 1862–3.

The Journal of the New York State Agricultural Society, Feb. & March, 1862.

Daughaday & Rennison, Newburgh, Orange Co., N. Y.—Descriptive Catalogue of Bedding and Green-house Plants, Grape Vines, Currants, Strawberries, &c.

Correspondence.

To the Editors of the Horticulturist:—As the propagation of the vine by grafting is attracting attention, I have concluded to read you a chapter of my own experience. There seems to be some difficulty in the way of complete success, and we shall be able to attain the desired end only by a friendly interchange of ideas.

I was pleased at El Medico's partial success, as narrated in the December number of the Horticulturist. That, with the tough subjects he had to work upon, he achieved even a partial success, to me, seems almost wonderful.

It seems that success in grafting the grape, *above ground*, whether before or after the flow of sap, depends upon many conditions and contingencies; for instance, some families of vines are too exuberant in flow of sap, while a few others are too weak for subjects to graft upon. These conditions, I suppose, constitute the objection—want of adaptation in texture of wood may be partly obviated by El Medico's plan of cutting obliquely across the grain of the stock.

But, permit me to give Mr. Miller, El Medico, and the rest of our folks my experience. Last spring, (1861,) in April, I grafted some stocks, Isabellas, *above ground*, which I had previously, first March, taken up and heeled in to retard the flow of sap, and succeeded in making two out of twenty grow. Then I had some wood of the Delaware, Diana, and Anna varieties, which I grafted into short sections—say 6 to 10 inches long of Isabella roots, which were taken from the ground and grafted about the first of June. El Medico will probably be pleased to learn that *these all grew*, a large proportion being Annas, a sort he found so stubborn in his own hands.

My theory is this; the scions were well kept. The roots were out of the ground only long enough for grafting, and being pliant, unlike stocks above ground, were readily made to fit a neatly cut wedge-shaped scion: the temporary detachment of the roots from the soil and cutting them into sections prepared them for the mysterious process of union with the graft. In these last and successful cases, no wax was used, the grafts only being gently tied with bass matting. They all made healthy good plants, and would have made strong ones had the roots been ½ inch diameter and two feet in length. G.

[The interest felt in grafting the grape seems not to have abated in the least.

El Medico has struck a sympathetic chord, the vibrations of which have been felt throughout vineyarddom. G.'s article will not fail to interest El Medico. The above was intended to have been in our last issue, but the season is such that it will not be too late for use.—Ed.]

Mr. Peter B. Mead:—*Dear Sir*,—In answer to my letter in your August number, you say, "In respect to root-grafted apples, the piece of root upon which they are grafted *gradually dies*," &c. I have seen this statement two or three times before, but I confess that I was taken aback somewhat at seeing it from the pen of the Editor of the Horticulturist, it is so contrary to my experience. As you would hardly make the assertion without some warrant for it, I am at a loss to account for it, unless the method you have been familiar with has been too deep planting; in that case the plant would of necessity put out roots near the surface, and as these became active and strong by the influence of the atmosphere and the sun's rays, the old root down there in the cold dead earth might, and would probably, die; but as I plant the root only just below the surface, the root I think becomes just as permanent as any part of the tree, not more liable to die than a stock grafted one foot or ten feet from the ground. And why should it be? the root and graft unite just the same; the layers of new wood are formed over the union; and when the tree is of the proper size for transplanting, it is difficult, and generally impossible, to find the place where they unite, for the roots come out all around and obliterate it. It is the practice of all good nurserymen in planting young stocks, I believe, to cut away a part of the root as well as the top, and no intelligent person will contend that it is indispensable that the whole root shall be planted. The question arises then, how much of the root must be left to secure perfect health to the future tree? I should say eight inches is enough for any thing; and as regards the apple, I believe four inches will produce just as healthy and durable a tree, though at first it will not come forward quite as fast. The inference then is, that a piece of root eight inches long is better than the whole root; and if it is better of itself, it is certainly a better subject for grafting. But instead of grafting the piece of wood eight inches long, I cut it into two (and one I consider as good as the other) and graft both, and it passes my wisdom to tell why a piece of root four inches long is sure to gradually decay while a piece of root eight inches long is better than the whole root to graft upon. There may be reasons in favor of budding or grafting above the surface a few inches, but at present I should have no choice were I to set an orchard, provided they were well rooted. And this brings me again to the question of fibrous roots. You say "for where these (*i. e.*, fibrous roots) are duly present, there is never a lack of the other." Mr. Elliott in his book says, "Grafting on small pieces of roots may answer for growing some varieties in the nursery; but very few, when removed, are found to have made much but *small fibrous roots*, and when planted in the orchard require staking for years, and rarely ever make good trees." I have seen some

such trees as he describes, though, judging from your statement, you have not, and of all trees I think them the poorest. Yours truly,

GEO. W. DEAN.

[We owe Mr. Dean an apology for the long delay in the appearance of his letter. Put aside with letters from Mr. Bliss and others, they all got mislaid, and have only just been found. Our means for preserving letters at our city room have hitherto been very imperfect, and a source of almost constant annoyance. In regard to root-grafted trees, we have seen so many in which the root had died, and the tree formed a system of roots of its own, that we are not permitted to doubt the fact. We long ago expressed the conviction that too deep planting had much to do with this. If a root-grafted tree is planted so deep that the stock puts out roots of its own, the moment these assume the office of "working roots," one result will inevitably follow, viz., the gradual decay of the piece of root on which the tree is grafted; for it is not possible for a tree to maintain long two systems of roots at one and the same time; one or the other must gradually give way, or cease to be operative. In this case it will matter little whether the piece of root be four or forty inches long, since it is subject to a dominant physical law. If you plant just beneath the surface, the piece of root becomes permanent; but very few do so.

The late Mr. Bridgeman, one of the most observant and thoroughly practical minds we have ever had among us, considered deep planting one of the most prevalent and disastrous evils in American horticulture. He was mainly right. As a matter of choice, we should prefer trees worked a few inches high on vigorous young seedlings. We can not perceive what there is in our statement which should lead you to infer that we have not seen just such trees as those described by Mr. Elliott. All understand what he means by his "small fibrous roots;" we have seen only too many of them. There is nothing in our statement that in the least conflicts with the quotation from Mr. Elliott. Where fibrous roots are "duly present," there will necessarily be present also all needed primary roots. Do you not understand that? In healthy plants these roots always bear a due relation to each other, according to their kind. Have we made this matter plain to you?—ED.]

MR. MEAD,—I have about forty grape vines, planted out last fall; they were layers, and had been transplanted one year. I did not cut them much last fall. Now, would you cut them this spring down to three or four eyes, or let them remain as they are? Truly yours, C.

[We would now cut them down to three eyes. If they are strong enough to carry two canes, let them do so; if not, rub off the two weakest shoots when three or four inches long, and grow one cane.—ED.]

EDITORS OF THE HORTICULTURIST:—Please let me say a few words to your

hedge admiring readers. Do not plant the Osage Orange where the Isabella Grape has ever been winter killed. Last summer I saw at the extensive nurseries of Smith & Hanchett, of Syracuse, N. Y., the remains of a beautiful Osage hedge, killed the winter preceding. It was a model. Its death was a warning. Part of it had been taken up and replanted to Honey Locust. At the same place is a Honey Locust hedge of the same age; it stood the winter very well, not in the least injured. The Honey Locust takes about a year longer to form a hedge of the same size as the Osage, but it *lasts*. Mr. Beecher, of Erie, Pa., had a long Osage hedge killed the same winter. At the Syracuse Nurseries they have had the Honey Locust under trial for about six years, and are well satisfied with it. They set the plants at eight inches' distance in the row. None of the plants have *died out*, as predicted in Warder's "Hedges and Evergreens." Horticulturists are beginning to see that our country is very large, and it will not do to recommend a fruit for the United States, but for some particular section; so it is with Hedge plants. Where the Osage will stand the winters, it is probably, all things considered, the best plant we have.

Yours as ever, VITIS.

[Making a hedge is a somewhat serious undertaking, and it is wise to ascertain the hardiness and fitness of the plant to be used. The caution of Vitis is timely.—ED.

EDITOR OF HORTICULTURIST,—Supposing several Rebecca grape vines trained to the rafters of a shed without a roof some six to ten feet from the ground, would it be good or bad policy to shade the Rebecca by training the Concord or some other vine, say about four feet above the roof, or rather the rafters to which the Rebecca vines are fastened?

Please answer in your May number, and oblige, truly yours, C.

[We should consider it decidedly *bad* policy to shade the Rebeccas as you propose. Whatever fruit you might get in that way would in time become quite insipid. A grape vine makes a bad shade even for its own kind.—ED.]

THRIP.—Would you inform me, through the HORTICULTURIST, if there is a remedy or (better) a preventive for the *thrip?* I have two graperies, the one built twelve years and the other ten years ago, and in all that time had no trouble with my vines, except thrip, which I can not keep out, either by syringing with water or aloes, nor tobacco smoke. THRIP.

[The thrip is always troublesome and difficult to get rid of. We have tried several remedies, with more or less success, but the best, and a good one, is the Gishurst Compound. We would advise you to try this.—ED.]

"EGYPT" FOR FRUIT.—*Editor of Horticulturist:*—The peach buds are all right here as yet, (March 8,) and I think we may safely count on a good crop this

season. Peach growing in southern Illinois bids fair to become a lucrative and extensive business. Apples and pears also promise to pay well here.

About $5,000 worth of fruit trees have been planted in this county during the past five years, mostly from Northern and Eastern nurseries. We have now four small nurseries in Egypt, established at different points on the Illinois Central Railroad.

There is a good chance here for money making in the fruit business, although the greatest results will be attained only by the industrious, practical, intelligent pomologist, with business tact, and considerable capital. Cotton and sorghum will receive much attention here the coming season.

Union County, Ill., March 8, 1862. A. Babcock.

[We are glad to hear such a good report from "Egypt." It would seem to be a good place to emigrate to. Let the people go down into Egypt, and multiply and replenish the land, and make it fruitful in all manner of good things. So may it be. What kind of peaches are chiefly planted in Egypt? There can be no doubt you have a fine climate for fruit.—Ed.]

Mr. Mead,—Please tell me which is right. S. says if a grape vine stands in a damp place, or low ground, and does not do well, that pasture sods tipped or dumped about the trunk and buried two feet, allowing the foot roots to remain in the damp earth or wet ground, will be as well every way for the vine, as to take my plan, which would be to lift the foot roots out, or raise them to the top of the ground, and then put the two feet of pasture sods about them. Please tell me what you think, and oblige, very truly yours, C.

[We think your plan decidedly better than that of S. But a better way is not to plant at all in a damp place. Grapes grown in wet ground will inevitably be thick skinned, hard fleshed, and ill-flavored.—Ed.]

I have been paying some attention to the strawberry, and would like to know whether they could be sent to your city in a marketable condition, and what the following varieties usually sell at, viz., extra selected berries of Triomphe de Gand, Hooker, and Wilson. These, according to my judgment, are superior to any others out of a considerable number of kinds that I have been testing. What would be the best plan of packing and shipping? Can you give me the names of some commission houses that deal in fruits? Can you inform me where I can procure colored plates of fruits, and at what price?

By answering the above inquiries you will very much oblige

Masontown, Pa., March 13, 1862. Yours truly, G. W. N.

I am making the peach a specialty, and would be pleased to see something practical on the cultivation of the peach in the Horticulturist. G. W. N.

[Strawberries can be sent to New York from your place in good marketable

condition. The kinds you name, selected, sell for from 25 to 75 cents per pint, much depending on their earliness and the season. Put them in square open boxes, and they will carry safely and in good condition. Water is to be preferred to land carriage as a means of transportation. There are a number of reliable commission merchants here, either of whom you could safely employ. Their charge is usually 10 per cent. We can furnish you with a number of colored plates at reasonable prices, according to the subject, and Mr. Dewey of Rochester can also furnish them. Mr. Hovey might probably furnish some. We do not at the moment remember any others. We shall give you ere long the desired information on the Peach. We have a number of trees trained on a modification of the *cordon* system, which thus far we are decidedly pleased with.—Ed.]

Mr. Mead:—*Dear Sir*,—Will the cool nights and frosty nights, or the degrees of cold that we generally get after the 15th of March, do any injury to out-door grape vines, if uncovered as soon as the above date? Bright says "uncover when the peach tree is in blossom." Judd says, "remove the covering when the frosty nights have gone." A friend of mine says, "he does not believe a vine can be injured, if the cover is removed after the *extreme* cold is over." If it is better to leave them under the earth or straw till late, say till the middle of May, please tell us why. R. C., Jr.

[No harm will happen to your vines if they are uncovered as soon as the frost is out of the ground; that is, no harm that would not equally happen if they were left covered. The only danger to which they will be liable after this time will be a late frost when in flower, and winter protection is no safeguard against this. We prefer to uncover as soon as the frost is out of the ground. We should be loath to defer it till the middle of May.—Ed.]

Messrs. Editors:—Are you aware that we have a Horticultural Society in our town, or rather the towns bordering on our famous Newburgh Bay? Such is the fact, and we congratulate ourselves that said society holds no mean position, in comparison with similar ones on the Hudson River.

This society has been in existence for about one and a half years. We have had no exhibition as yet, with the exception of the *trial* one in October, 1860, where, to use the expression of a visitor from abroad, we "eclipsed every thing on the Hudson."

But to the subject. We had no fair, as I observed, last year, partly on account of the unsettled condition of our country, and partly other causes unnecessary to mention here. But this year we report ourselves around, and anticipate that we shall be heard from at our fall exhibition, on the 24th, 25th, and 26th of September. We have already a goodly number of members, and our list is constantly

increasing of the substantial and enterprising men of our vicinity. We have chosen for our society the name or title of "The Newburgh Bay Horticultural Society," and, as its name indicates, its operations will be confined to the towns bordering on Newburgh Bay. We hope to be favored with your presence and encouragement, at the time of our general fall exhibition. I say *general*, to distinguish it from the weekly free exhibitions, which we hold each Saturday from June to November. These exhibitions, of course, will be but small affairs, hardly deserving the name, for showing any thing we may have *at the time* that we think rare, beautiful, or interesting, in the way of fruit, flowers, &c.; for you know it is a characteristic of the horticulturist, if he has a rare or interesting production of *his growth*, he is anxious that others should participate in his enjoyment of it.

Thus far for the present. Our society commenced under so favorable auspices, we hope and anticipate it is destined to increase in strength and utility, until it becomes an *institution*, as firmly established as old Beacon Hill, that with silent grandeur overlooks our beautiful bay.

The officers of the society for the current year are: *President*, H. W. Sargeant, Esq.; *Vice Presidents*, O. S. Hathaway, Robert Sterling; *Treasurer*, Alfred Post; *Recording Secretary*, Eugene W. Gray; *Corresponding Secretary*, J. C. Rennison; *Executive Committee*, Daniel Smith, J. H. H. Chapman, Charles Dubois, W. D. Barnes, Enoch Carter, Daniel T. Weed, J. F. Van Vort, Henry Cornell, J. M. Barrett, T. H. Roe. Truly yours,

Newburgh, March 17, 1862. D. Smith.

[We can hardly say that we were aware that you had a Horticultural Society in your town, but we are much pleased to be assured of the fact. Any thing that we can do for your Society, we shall do most gladly. Do not let any thing interrupt your yearly exhibitions; least of all this mad rebellion, which horticulture can do its share in putting down by growing a plentiful crop of hemp. You should also have monthly exhibitions; and above all, conversational meetings, especially during the winter months. Newburgh is rich in material for forming a Horticultural Society which shall be preëminently useful. You have good officers, for we recognize nearly all of them as readers of the Horticulturist. In your President, you have a public spirited gentleman who will not let the Society die on his hands. Having thus all the elements of success, you have only to unite in a resolution that you *will* succeed. Our good wishes you have abundantly —Ed.]

Mr. Editor:—Please cause to be inserted in the next number a select list of Dahlias, 25 or 50; the best, in your opinion, and oblige a subscriber.

Sudbury, Vt. J. M. K.

[In making out this list, we do not hesitate a moment in placing on it Mr.

Richardson's seedlings. Among those named below will also be found some of the best old varieties, and some very fine ones of recent introduction, as follows: Emma Cheney, Mrs. Richardson, J. W. Degrauw, Carrie Emmons, Jeannie Tomkins, Debbie de Gray, Mary Greene, Triomphe de Roubaix, Dr. Duval, Sir H. Havelock, Lady Popham, Grand Duke, Mrs. Edwards, Madame Zahler, Prince Albert, King of Yellows, Imperatrice Eugenie, Lady Paxton, Empress, Miss Caroline, Pre-eminent, Anne Boyleyn, Lollipop, Sir Colin Campbell, Sir Joseph Paxton.—Ed.]

Dear Sir:—Will you oblige one of your readers by stating whether the New York Horticultural Society is now in existence, and if so, has it kept up its organization without interruption since it was instituted in 1818?

[The New York Horticultural Society is still in existence, though for the past three years it has done little of public interest. We can hardly say that it has kept up its organization uninterruptedly since 1818; certainly not an active organization. Properly managed, it might at this moment be one of the most useful institutions in the country. If it will be of any service to you, we can give you its years of activity, as well as those of its inactivity.—Ed.]

Mr. Editor,—Please ask Mr. Barrett, of Canterbury, what plums he cultivates so successfully for market, and if he does nothing to kill the bugs except by the salt spread on the ground. I had given up trying to get a good crop of plums, except by Ellwanger and Barry's method of jarring the trees and killing them. I have planted plum trees in my poultry yard, hoping to be relieved of the trouble of killing them myself; but the plum crop of late has been destroyed entirely by the weather, so that I have learned nothing by my experiment. I procured the Lombard plum, to see if the saying was true, that the curculio would not destroy the fruit; but all plums have failed since then. One more question: Does the rosebug destroy the grape in your region, and how do you keep them off when they swarm, as they will once in ten or twelve years? Last year they were a pest. My grape vines, except those trellised on some building, were covered with them, the fruit entirely eaten up, and the leaves so eaten as to look brown. I had been told that rosebugs would not eat grapes, it was a mistake, etc.; so, as I was unusually occupied with sickness in my family and other matters, I concluded to risk it, and, of course, lost my fruit. What is the remedy? A friend of mine in Windsor, Connecticut, saved his grapes by shaking them off into a pan of water, three times a day for three weeks. But that is a tedious remedy, certainly, though I suppose it paid him. The last general swarming of the troublesome pest, some dozen years ago, an amateur fruit grower of Southwick, Massachusetts, laid his vines on the ground till the cloud of insects passed over, and then tied them up again. I suppose we shall be troubled with them another year or two, when they will pass by for a time. I have seen no

notice of them in the journals, and wonder if other parts of the country are visited thus. E. A. Holcomb, *Granby, Conn.*

[Will Mr. Barrett please supply the list called for? The rosebug does destroy the grape in our region, at least as far as we permit it. If persistently killed they will, in a few years, become so lessened in numbers as to give comparatively little annoyance. Last year they abounded in nearly all localities. The best remedy is to knock them into a basin of water; it is not so very tedious as would seem. A slight tap on the vine will cause them to fall; but the basin must be held within a foot or so of them; for after falling a distance they generally take to the wing. Your friend was doubly paid for all his trouble. If all would unite in a measure of this kind, the rosebug would soon cease to be an annoyance.—Ed.]

THE BROOKLYN HORTICULTURAL SOCIETY.

The Society met March 25th, President Degrauw in the chair.

Among the flowers on the table were a beautiful Double White Flowering Almond from Mr. Dailledouze, a very fine Acacia Drummondii from Mr. Bridgeman, a beautiful Bouquet from Mrs. Humphries, and a Dendrobium nobile and other plants from parties whose names we forget.

The subject of the evening was *Pruning*. *Mr. Quinn*, of Newark, opened the discussion, having furnished himself with trees to illustrate the subject. After some prefatory remarks on the preparation of the soil, he said:

It is a mistake to suppose that a tree whose habit is to bear fruit, will flourish and produce profitable returns yearly, unless the constituents that go to make wood and fruit are regularly supplied to the soil. It is a well-known fact to intelligent fruit growers, that pear trees become more delicate in their habits, in proportion as the quality of their fruit is improved, and, therefore, with an orchard of choice fruit, greater care is required to supply the necessary ingredients than would be called for in those of a coarser character. The idea that a tree once in place can take care of itself, should be dismissed from the minds of all who intend growing fine varieties.

The soil should be disintegrated to at least a depth of two feet, and if the subsoil be tenacious or impervious to water, underdraining should be resorted to, in order to free the soil of standing water on the surface or around the roots. No fruit tree will maintain a healthy condition, when its roots are submerged in water, as a free circulation of air through the soil is absolutely requisite in promoting a vigorous growth. Various opinions are held by growers concerning the proper size to which the holes should be dug in putting out pears, but my own belief is, that the field should be one large hole filled with fine earth. I can commend the following rules to those about to plant trees:

1st. Pulverize the soil to a depth of two feet.

2d. Keep the soil free from standing water.

3d. Allow no unfermented manure to be placed in the hole at the time of planting.

4th. A soil that will yield sixty bushels of shelled corn to the acre, will produce paying crops of fruit.

With these few suggestions, we will leave the soil and take up the next most important branch of our subject, pruning. For the pear, the pyramid or conical shape is preferable to all others, for these reasons: 1st. The largest surface is nearest the ground, and, therefore, the less likely to suffer from prevailing winds. 2d. The fruit is less injured in falling from the tree. 3d. Less ground is shaded with the pyramidal than with higher and more spreading forms of growth. 4th. The trunk is not exposed to the direct rays of the sun, and consequently the flow of sap is not accelerated, as would otherwise be the case. These few reasons, with numerous other advantages, might be given, but these mentioned afford sufficient evidence in favor of conical shaped trees.

Two years from the time of budding the young tree is ready to be taken from the nursery row, and consists of one main or center shoot with numerous side shoots or laterals. The most vigorous of those are on the upper part of the centre shoot, while the weakest are near the ground. The plan of pruning should then be directed to check the upward tendency of the sap, so that it will be disseminated in the lower part of the tree, to develop the dormant buds, and increase the strength of the weak branches. I will remark, that in setting out a tree, the weakest side, or that with fewest branches, should be placed facing the southeast, as the strongest growth of wood will be made in that direction. By this means less labor in pruning is required to keep the tree in balance.

To prune for a pyramidal tree, each branch should be longer than the one immediately above it, and the operator should encourage an upward and outward growth. When necessary, a bud may be inserted where a shoot is required to fill up a vacant space. Some varieties, such as the Duchess d'Angoulême, Flemish Beauty, Lawrence, and Bartlett, are naturally inclined to form a pyramid; their growth of wood is regular, and consequently may be made to attain the right shape with little trouble, while other kinds, such as the Winter Nelis, Glout Morceau, and Beurré d'Amanlis, are more difficult to manage, owing to their propensities for irregular growth. For the first named kinds the cut should be made slanting, on the upper side of the shoot, near a wood bud, or, in other words, the operator stands facing the tree, cutting from the upper side, drawing the knife at an angle towards him. The bud in this case should be on the lower side of the shoot, so positioned that the growth from the bud will keep the tree in balance. For the latter class of trees, the cutting depends on the position of the shoots and buds, but, as we said before, the growth should be encouraged upward and outward. Owners should not be over anxious to have a large tree in a few years, but rather

endeavor by cutting back to get a stocky growth and strong branches near the ground. By this method the fruit spurs are formed on the trunk and near the base of the larger branches, and therefore are not liable to be blown off by heavy fall gales.

The question is frequently asked, when should pruning be done? The best answer to that query is, "Prune in winter for wood and summer for fruit," or, in other words, to encourage the growth of wood, prune in winter; to encourage fruit-bearing, prune in summer. At each pruning the same object should be kept in view, the formation of a cone, open enough in the centre to admit air and light freely, and sufficiently compact to withstand heavy wind storms. New beginners are apt to permit a young tree to overbear before it has established itself. It always proves a detrimental practice, weakening the constitution of the tree, and in time producing disease and premature death. A young tree, to maintain its healthy condition, must continue to make new wood, as well as produce fruit; if not, it will soon become sickly. He mentioned the fact that trees badly pruned, and unfruitful, sometimes are brought into bearing by either ringing the bark, or another method, which consists in taking a straight upright shoot, and bending it so that the extreme end may be fastened to its base; this checks the flow of sap, and fruit buds will be developed on the upper line of the arch. He would prune in winter for wood, and in summer for fruit—mostly through March and April.

Mr. T. W. Field.—I bought these trees to fill up a gap. They are in different conditions in regard to form. Most trees are defective as they come from the nursery. Branches on a pyramidal tree should not be nearer than six inches, or more than a foot apart. The branches should be as near triform as possible. Cutting should be done when the sap is flowing, so that the wound will heal. If pruned in the fall, the cut should be higher above the bud, as it will infallibly die back. Most trees on Long Island lean to the northeast. All the food that enters into the structure of a pear tree passes through its leaders. The object of pruning is, first, for shape; second, for leaves. Would not root prune a standing tree; would root prune the one in my hand. Most soils are shallow; those on Long Island are not over one foot in depth. You can not pare the soil so close but that you will disturb the mouths of some of the little roots seeking sustenance from the atmosphere. If I wanted to produce fruit early I would root prune. Would prune when setting out, but would not prune a tree growing. If I had a child I would scrub him and clean him, but I would not dig his heart out. Would commence pruning next week, and continue till the second week in May. Branches may be taken away occasionally until the middle of July. Each little rootlet has formed a place for itself, and would not keep company with the others if they could, and if not put in the same way would not live.

In answer to a question, Mr. Field said, the Beurré Diel, Duchesse d'Angoulême, Beurré d'Anjou, in fact, all our best pears do best on the quince. The Bartlett forms a poor union with the quince, because its tendency is to fruit early on

its own stock. There is no greater ornament in a gentleman's grounds than a Bartlett on quince. Would plant the Flemish Beauty always on the quince; it is one of our best pears.

Mr. Fuller.—My rule for pruning is to cut a shoot when it needs it. Would cut a vine down to two buds, and make two shoots the next year. The third year train the arms laterally, and take out the buds on the lower side. Grapes grow on the wood that is to grow, not on that that has grown. A vine should not be larger when 100 years old, but more in diameter. Cut the shoots from the arms to two buds. You will get a spur six inches long in twelve years, on short-jointed kinds. You can make one vine cover half an acre if you wait long enough. A vine will bear for 100 feet if kept on a level. I can not get a good lower bud in the renewal system; believe the arm system is the best, and do not approve of the new ones.

Mr. Peck.—Why are two arms better than one?

Mr. Fuller.—Two arms are not better than one, but the arm system I think the best. The best fruit for wine grows nearest the old wood. I do not think it best to have more than two arms.

Mr. Peck.—Are not inexperienced persons, in growing to arms, apt to get one stronger than the other?

Mr. Fuller.—Yes, I think so. A trellis should be at least six inches from the fence. Plant your vine two feet from the trellis; bring the vines together at the trellis. A variety of grape vines do not look well on a trellis. Pinch off all laterals, and serve them as you would politicians. Laterals are called thieves, and if not pinched out would rob the main shoot. Do not like to break them out, as it is liable to make dormant buds break. We want as many leaves as we can get, and have them healthy. Rub out the suckers from the old wood. Grapes do not want the sun; if the sun strikes the grape it will not ripen. Can get color, but not flavor. Can make a tendril turn into fruit by pinching off the end when it appears.

After further remarks from Mr. Mead and others, on miscellaneous subjects, the Society adjourned.

The Society met again April 8, Mr. Howe in the chair.

Question.—Which are the best 12 herbaceous plants for city gardens?

Mr. Fuller.—Dielytra spectabilis, blue Delphinium, Spiræa filipendula, Double White and Double Red Lychnis, Double White Campanula, Campanula grandiflora, Oriental Poppy, Phlox, Chrysanthemum, Pentstemon.

It was moved, that at the next meeting there be handed in a list of herbaceous plants, of 50 different kinds.

Question.—Which is the best time to lay out Arbor Vitæ hedges?

A member answered to-morrow morning at 7 o'clock, which Mr. Burgess endorsed.

Mr. Burgess.—I used to kill toads in my strawberry patch. One day I killed one, and it contained 2 caterpillars, 4 snails, 20 wire-worms, and other insects.

Mr. Fuller.—I consider every toad in my garden worth five dollars. They can be tamed. My toads follow me in my garden, they are so tame.

Mr. Burgess.—Would like to have sparrows; they are good for Dahlias. They catch the larvæ about the flowers. Go in for forcing a law to protect these beneficial animals. Prune roots ten feet from body of tree; every year prune them and feed them; put in good rotten manure. Peat is good for a winter top dressing.

Mr. Brophy.—No matter what age the tree is, it needs root-pruning. Why? because it multiplies itself; we find new roots that are necessary to it.

Mr. Fuller.—Root pruning increases the number of roots. The roots are only annuals; they die off. No tree can be lifted out of the ground without destroying the roots. All stone fruits will canker if broken. The strawberry is not generally pruned. I cut back half; they can be set out more easily; they feed better. Strictly, they are not perennials; they are biennials. Most all foreign strawberries produce stools or crowns. Foreigners lift themselves out, and are killed in winter. Strawberries are pistillate and staminate; there is no such thing as a staminate, though we have got a way of calling them so.

Mr. Burgess.—The most essential thing is to prune trees with a sharp knife. Do not approve of spades or shears.

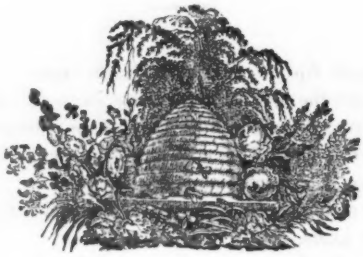
Mr. Fuller.—A cultivator is a good thing to use in an orchard.

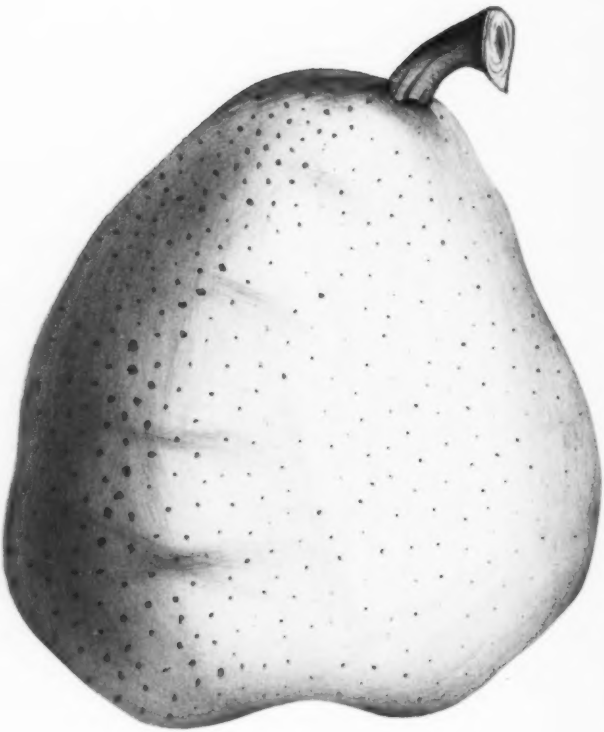
Question.—Are not many ornamental trees lost by not being pruned at the roots?

Mr. Fuller.—Trees are set out like posts, and that is the last of it. If it was not for the slops in gutters, trees would not grow.

Mr. Hill, of Nyack, exhibited some fine paintings.

"Neglected Native Fruits and Plants" were selected for the next meeting, and the Society adjourned.





DUCHESSE D'ANGOULÊME PEAR.

(For the Horticulturist.)